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THE INFLUENCE OF STUDENT HOUSING AND SELECTED ACADEMIC
AND PERSONAL DEMOGRAPHIC CHARACTERISTICS ON THE
RETENTION OF STUDENTS FROM THE SECOND TO THIRD YEAR AT A
RESEARCH UNIVERSITY (RU/VH)

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
Requirements for the degree of
Doctor of Philosophy

in

The Department of Leadership and
Human Resource Development

by

Loren S. McIntyre

Bachelor of Science, Louisiana State University, 2009

Master of Arts in Teaching, Louisiana State University, 2010

December 2017

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Loren S. McIntyre

This dissertation is dedicated to my son, John Patrick McIntyre. It has been almost two years since you changed our lives for the better, and I still cannot believe that I get the opportunity to be your mom. As I rock you to sleep each night in your Granny's rocking chair, it is never lost on me how lucky I am to get to experience motherhood. So many people prayed tirelessly for you; you are truly an answered prayer and evidence of God's promises fulfilled. Your slobbery kisses, sticky hands, and belly laughs give me life. Though my hopes for your precious life are endless, I hope that I am able to instill within you the same values that were instilled within me. Remember, there are two things that no one can ever take from you: your education, and your manners. Your Lolli taught me this and Mrs. Beverly reminds me of this truth as well. John Patrick, "as long as I'm living, my baby you'll be" and "may you stay forever young." Please don't ever grow up (and if you could avoid the terrible twos and teenage years, that would be great, too).

This work is also dedicated to my Granny and Popie, my mom and dad and to my husband, Chris. I am forever grateful for the opportunities that you worked so hard to give me. It is because of you that I was able to pursue this endeavor and I will never be able to adequately express my appreciation and gratitude for your unyielding support. I've always been told, "To whom much is given, much is expected." You've given me more than I could have ever asked for and I hope I've made each of you proud.

Finally, this is dedicated to anyone who thinks they are "just a..." and believes that they not able to overcome the academic hurdle of an advanced degree. My sincerest hope is that this effort shows you that even if you believe you are "just a teacher," "just a mom," "just an average student," or "just a (fill in the blank)", you really *can* prove to yourself that you can do hard things, like completing a doctoral degree.

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This journey and major academic accomplishment would not have been possible without the encouragement, guidance, and support of some very important people. I am lucky to be surrounded by a group of people who see things in me that I cannot see in myself. When I thought I couldn't, these people believed so strongly that I could. Though I will be the one to walk across the stage at graduation, this accomplishment has been a team effort and a shared success.

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You have been so gracious in welcoming John Patrick in all of our meetings and I will never forget the kindness you have shown our family, from the snacks you have shared with John Patrick to always walking us out of the office so you could hold the door open for his bulky stroller. I know you would deny this, but I would not have made it through the dissertation process without you. You have my unending gratitude.

I am forever grateful to the members of my esteemed committee, Dr. William B. Richardson, Dr. Kristin Stair, and Dr. Satish Verma. Thank you for the commitment, encouragement, and support you have shown me throughout the entire Ph.D. process. I know that time is your most valued and precious commodity: thank you for choosing to spend your time helping me to grow from the very beginning until the sweet end of this journey. Your intellectual discussions have challenged me to think in different and exciting ways. I am honored to have had the privilege of working with each of you.

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while we composed this dissertation. Though you will not remember these meetings, I hope this accomplishment shows you truly can accomplish anything with the right people by your side.

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ABSTRACT

The purpose of this study was to determine the influence of participation in a content-based residential college versus non-participation in a content-based residential college on retention in the second year of study at a research university-very high research activity (RU/VH) in the southern portion of the United States. The dependent variable of the study was whether or not the traditional-age, first-time freshman students enrolled at the study institution in their fifth semester, or second to third year, of study. The target population for this study was defined as traditional-age, first-time college freshmen who enrolled in a research university-very high research activity (RU/VH) in the South. The accessible population was defined as traditional age, first-time college freshmen who enrolled in one selected research university-very high research activity (RU/VH) in the 2014-2015 academic year ($n = 5,542$). Of these 5,542 students, 1,373 resided in a content-based residential college during their freshmen year. The data were descriptive in nature and therefore analyzed using descriptive statistics, including frequencies, percentages, means, standard deviations, the analysis of variance (ANOVA) technique, t-tests and the chi-square test of independence technique.

In addition, a Multiple Discriminant Analysis was conducted to assess if a model existed that significantly increased the researcher's ability to correctly classify students on their retention from second to third year. Findings indicated that the number of credit hours earned in each of the first four semesters influenced the retention of students into their fifth semester, and therefore, dropping below full-time status put students at risk for not completing their degree. Findings also indicated that a higher percentage of students who participated in content-based residential college were retained to fifth semester (77.9%) than those that did not participate in a content-based residential college (73.0%), suggesting that participating in a content-based

residential college increased the likelihood of retention in the second to third year, or fifth semester, of study. The researcher recommends the expansion of content-based residential colleges into multiple-year offerings across a wide variety of curricula.

CHAPTER 1: INTRODUCTION

Background

Though American colleges have existed for over 350 years, the issue of retention did not arise until the early 20th century. The first studies of premature student departure emerged in 1930, but did not become a prevalent topic of discussion until the 1970s when Spady's 1971 article, "Dropouts from Higher Education: an Interdisciplinary Review and Synthesis," outlining his model of student departure was published. Spady's article built the foundation for other pioneers in retention theory, and shortly after, Vincent Tinto (1975) and Alexander Astin (1977) created their own models to explain student departure prior to graduation. By the conclusion of the 1970s, retention theory was well established, thus driving a systematic examination of retention.

As a result, the practice of enrollment management emerged in the 1980s, as a method to align efforts across the admissions, financial aid, registration, and institutional research areas in order to better control enrollment (Hossler, 2002). Retention as a field of study became more prevalent and gained momentum throughout the 1990s. The importance of finance and the ability to pay for postsecondary education became a new emphasis for research, and greater attention was being paid to student diversity and retaining students of color (Berger, Ramirez, and Lyons, 2012, p. 28). As the decade came to an end, the 1990s also saw the development of the idea that persistence and retention are two separate concepts. In more recent history, retention has become a well-established, engrained part of higher education and continues to be a major policy issue at both the state and federal levels on an annual basis. An American College Testing (ACT) study reports that almost 26% of college freshmen do not return the following year. As the importance of earning a college degree continues to increase, so does the importance of retention.

Rationale

Education is Important

In her Nobel Peace Prize acceptance speech, then fourteen-year-old Malala Yousafzai boldly expressed, “Education is one of the blessings of life—and one of its necessities” (Yousafzai, 2014). Former United States Secretary of Education Arne Duncan describes education as “the new currency by which nations keep competitive” and states, “a better educated world is a better steward of the planet” (United States Department of Education, 2013). Students are graduating high school at a higher rate than ever before. In December 2015, it was reported by the US Department of Education that 82.3% of high school seniors graduated. In response, Delegated Secretary John King explained, “A high school diploma is absolutely critical, absolutely attainable and key to future success in college, in the workforce, and in life” (United States Department of Education, 2015). The United States Department of Education (<https://www.ed.gov/college>) posits, “in today’s economy, higher education is no longer a luxury for the privileged few, but a necessity for individual economic opportunity and America’s competitiveness in the global economy” (United States Department of Education, 2015). Therefore, due to increasing high school graduation rates and the positive impact of a college degree, postsecondary education is more necessary now than ever before.

A College Degree is Important

Earning a college degree is significant not only to the student who earns the degree, but to the institution and workforce as well. Possession of a college degree has become a societal norm, and as Arne Duncan describes, “A postsecondary education is the ticket to economic success in America (United States Department of Education, 2012). The current generation is the most educated generation in history, as reflected in the United States Census 2015 Current

Population Reports: 88% of adults aged 25 and older had a high school diploma and 33% had a college degree or higher, compared with 63% and 14%, respectively, in 1975 (US Census Bureau, 2016). A baccalaureate degree is the biggest predictor of economic success. According to the Occupational Outlook Handbook, in 2014 the median weekly earning for individuals with a Bachelor's degree was \$1,193. Comparatively, the median weekly earning for individuals with a high school diploma was \$668. The unemployment rate was 7.5% for those with bachelor degrees, whereas the unemployment rate for those who did not graduate from college was 19.5% (Bureau of Labor Statistics, 2015). Beyond the financial implications of higher salaries, college graduates are more likely than other employees to receive employer-provided health and pension benefits (Baum, Ma, & Payea, 2013). In addition to the financial ramifications, Baum et al. (2013) also noticed a correlation between healthier living habits of those that graduated college versus those that did not graduate from college. Based on their 2013 study, graduates were more likely to spend more time exercising and were less likely to smoke or be identified as obese (Baum et al., 2013).

The workforce—and society as a whole—benefit from individuals with college degrees. In conjunction with widespread productivity increases, the higher earnings of educated workers generate higher tax payments at the local, state, and federal level. Four-year college graduates pay, on average, 78% more in taxes each year than high school graduates, and spending on social support programs such as unemployment compensation Medicaid, and Supplemental Nutrition Assistance Program (SNAP) is much lower for individuals with higher levels of education (Baum et al., 2013). Additionally, a college graduate is less likely to commit a crime and 30% less likely to be unemployed (Hossler, Braxton & Coppersmith, 1989; Pascarella & Terenzini, 2005).

If Students are to Receive a College Degree, Institutions Must Have Adequate Numbers of Students Enrolled

The number of students who enrolled in college in 2015 was 1.7 % lower than it was in 2014, a trend that has continued for the past four years (Marcus, 2015). Predictions of a report completed in September 2015 estimate that closure rates of small colleges and universities will triple by 2017, due to declining enrollment. Small colleges, defined as private institutions with an operating revenue below \$100 million and public colleges below \$200 million, are often tuition dependent, meaning that when enrollment declines, there is “a reduced ability to invest in academic programs, student life, and facilities, which in turn negatively affects colleges’ ability to meet the desires of prospective students” (Marcus, 2015).

At the institutional level, graduation rate is a measure of financial stability and success, and influences the decisions of prospective students. Educating students is an expensive endeavor not only to students, but to institutions as well. Institutions invest an average of about \$14,000 per year per student providing undergraduate education, and tuition revenue remains a long way from covering the full cost. To make up the difference, state and local governments contribute about \$5,900 per student per year in taxpayer subsidies that keep tuition lower than it would be otherwise (Johnson, 2014).

Losing Students is Bad Business for the Student, Institution, and the Economy.

Though the economy and institutions of higher learning endure financial burdens, non-completers pay the highest price for early departure. Students who take out loans for tuition and do not complete a degree are less likely to gain employment that allows them to repay these loans (Lederman, 2010). College dropouts are five times more likely to default on student loans (Volkwein & Cabrera, 1998). They generally have diminished lifetime earnings, on average earning almost a million dollars less over the course of their working lives than those with a

college degree (Pennington, 2004). According to the United States Department of Education, more than 40 % of first-time, full-time students who enroll in a bachelor's degree program don't graduate within 6 years (United States Department of Education, 2015).

Every student not retained represents a financial loss for institutions through the loss of tuition, fees, and income from alumni contributions. A research-extensive university in the south provides a Net Price Calculator tool that allows prospective students to enter data that estimates the cost of attendance for one academic year (two semesters). For an out-of-state freshman entering the 2017-2018 academic year with a 3.0 high school GPA and 26 on the ACT, the total estimated cost for tuition and fees alone is \$26,820. If a student does not return after her or his freshman year, the university loses at least \$80,460, based on a four-year path to graduation. A

Although this estimate is general and limited in nature, it demonstrates the financial implications that are associated with the loss of a single student. Further, it is argued that an institution loses on ancillary revenues, such as bookstore revenues, on-campus dining options and meal plans (Swail, 2004). Using the Net Price Calculator tool, it is estimated that an out-of-state freshman will spend \$19,454 during the 2017-2018 academic year on room and board, books and supplies, and "other" expenses (such as personal costs and transportation). This means that the university would lose \$58,362 in ancillary expenses if the student does not return after the first year of attendance. In addition to student inputs, another point for consideration is the amount of money universities invest in recruitment, enrollment, and retention services in the forms of staffing, outreach, and overhead expenses. The institution loses a percentage of those invested funds each time a student leaves. Beyond the financial investment of the institution in recruitment, enrollment and retention services, early departure from college also results in a loss

of potential alumni dollars. This alumni support is an important part of an institution's activities for advancement.

Each time a student leaves a university, it comes at a cost to the economy as well. The American Institutes for Research found that since 2003, nearly \$5 billion per year has been lost in potential income and federal taxes due to the half a million students who did not complete college (AIR, 2011). Furthermore, taxpayers are burdened with over \$9 million in a given year for educating freshmen who do not return to college (Schneider, 2010). The potential loss in future tax revenue from one cohort of college non-completers is about \$730 million per year (Schenider & Yin, 2011).

What Factors Influence Enrollment? Recruitment and Retention.

Although many factors influence enrollment, recruitment and retention are the most pivotal. Recruitment is defined as “the action of finding new people to join an organization” (Merriam-Webster, 2011). In higher education, recruitment is the process by which students are encouraged to apply for admission. Once students apply and are admitted and committed to attending the university, retention becomes vital. A difference exists between a student being admitted to an institution and a student being committed to an institution. Because students are often accepted to more than one university, a large number of students who receive acceptance letters are admitted actually do not end up attending the institution. The discussion of the importance of retention applies to those students who are committed to the institution and are included in the official enrollment counts. The term “retention” can mean different things depending on the organization. Therefore, it is appropriate to refer to students who begin college and remain enrolled until obtaining a degree as a persister (or completer), whereas a non-persister is a student who begins college and leaves before earning a degree. Although frequently

used interchangeably, the National Center for Education Statistics uses the term “retention” as a measure of institutional accountability and the term “persistence” as measure of student accountability (Hagedorn, 2005). The term “attrition” is important when discussing retention. According to the Association for Institutional Research, attrition refers to the “departure from all forms of higher education prior to completion of a degree or other credential” (Delta Cost Project & AIR, 2009).

Different types of retention exist in institutions of higher education, including institutional retention, retention within a major or discipline, and course retention (Hagedorn, 2005). Institutional retention refers to persisters who remain at the same institution of higher education where they started. Retention within a major or discipline refers to persisters who remain in the same program of study from year to year, and course retention refers to persisters who complete the course for which they were registered. Each type of retention generates useful data and provides a clearer snapshot of the institution as the description gets more specific. For example, institutional retention only gives a bird’s-eye-view of the graduation rates of the institution as a whole. It does not account for changes in majors or programs of study; only retention within a major or discipline can provide this more limited view.

Retention within a major at a research university very high research (RU/VH) provides a narrower view of student trends and is important to consider because a student that changes her or his major from animal sciences to creative writing must transfer from the College of Agriculture to the College of Humanities and Social Sciences. In this occurrence, the student persisted within the institution, but the retention rate for the College of Agriculture was negatively impacted by the student’s decision to switch to a different program of study.

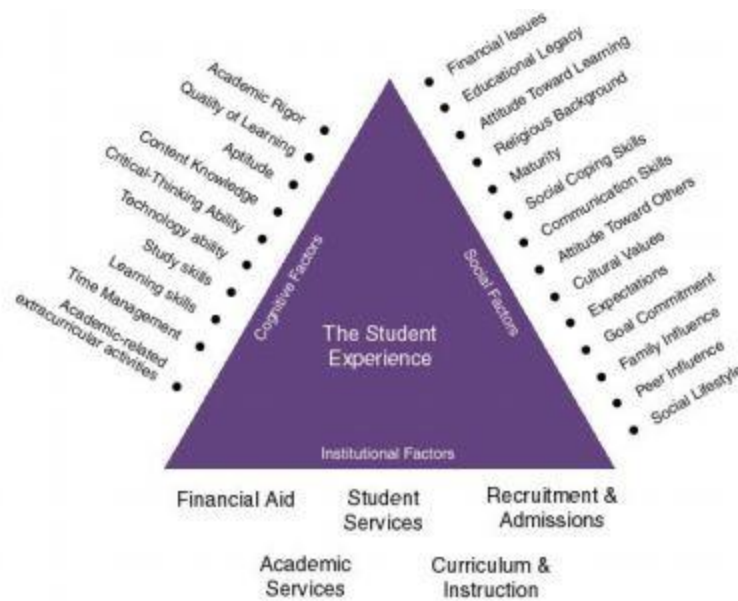
Finally, course retention is an important point to consider, especially in “gatekeeper courses,” or courses at the first level of college credit that lay the foundation for the major. Though this type of retention provides an extremely narrow view of the institutional picture, persistence in gatekeeper courses is a major factor that influences retention both within a major and at the institutional level.

Factors that Influence Persistence

Many factors influence persistence in institutions of higher education. Swail (2004) posits that these factors can be divided into three categories: cognitive factors, social factors, and institutional factors as is illustrated in his Geometric Model of Student Persistence and Achievement. It provides an avenue for the interaction of cognitive, social, and institutional factors—all of which influence and must emanate from within the student.

Institutional factors play a vital role in the retention and persistence of students. In Swail’s model, the departments of Financial Aid, Student Services, and Recruitment & Admissions are integral parts to both Academic Services and Curriculum and Instruction (see Figure 1). The institution must be able to provide appropriate services, both academically and socially, to students to ensure their continuation at the institution. Swail intentionally placed these factors at the bottom of the triangle to display that these variables set the foundation for success in the college experience. Swail posits, “How the institution reacts to students is of primary importance to retention, persistence, and completion” (Swail, 2004, p. 15).

To put it simply, cognitive factors are related to the student’s academic abilities, including the student’s strengths, weaknesses, and proficiencies, and “can be measured by course completion, aptitude, or extracurricular involvement in academic-related areas” (Swail, 2004, p.14).



Swail's Model of the Student Experience (Swail, 2004)

Swail incorporates the theories of Tinto (1975) and Bean (1983) in this branch of his Geometric Model of Student Persistence and Achievement, as he identifies the decision-making process regarding goal commitment, intent to leave, and value conflicts as critical variables that intersect with social factors that connect with cognitive factors to form the decision-making process (Swail, 2004, p. 14).

Persistence and retention are strongly influenced by social integration. Swail's model recognizes the importance of social factors, as it accounts for variables such as coping skills, financial issues, maturity, goal commitment, and family influence. Swail explains, "A student's social underpinning and opportunities have crossover impact on his or her cognitive development" (15). Kuh and Love (2004) posit that students who make cultural connections through social groups were more likely to persist. In their research, Dixon, Rayle, and Chung (2007) concluded that "mattering" to the institutional environment, defined as "the experience of others depending on us, being interested in us, and being concerned with our fate" was linked to

persistence (22). Cohort-based social support (Harris, 2006) and learning communities (Tinto, 2004) help students share institutional, academic (cognitive) and social experiences together.

In *Reworking the Student Departure Puzzle*, Tinto (2007) explains the social benefits to building peer support groups when he explains, “Participation in a first-year learning community enabled students to develop a network of supportive peers that helped students make the transition to college and integrate them into a community of peers” (Braxton, 2007, p. 5). Living learning communities, commonly referred to as residential colleges, provide an avenue for the intersection of institutional factors, cognitive factors, and social factors. Aligned with Swail’s model, residential colleges provide the ultimate student experience.

Residential College Influence on Persistence

Modeled after Oxford and Cambridge, the first American residential college was introduced in 1893, operating under the belief that “Good housing contributes to academic success, and the securing of proper housing is as important as providing proper classroom instruction” (Brucacher and Rudy, 2004, p. 336). Thomas Jefferson implemented similar “academic village” principles at the University of Virginia, Harvard established a residential college system in the 1930s, although a looser version of living learning communities existed at Harvard as early as 1890 (Bliming 1998).

During his time as president of Princeton University, Woodrow Wilson proposed to establish a quadrangle-style housing unit for students and unmarried faculty members. His proposition was not accepted, but it brought national attention to the Quadrangle Plan, which would come to fruition many years later (Bliming 1998). Several other colleges across the country began implementing similar residential plans prior to the First World War, and the Oxford and Cambridge model soon became a nationwide trend. At the conclusion of the Second

World War, Princeton had re-established its residential college initiative, and by the 1890s, the majority of the most prestigious universities had residential colleges in place.

At a research-extensive university in the south, students have three options for housing. Students can choose to live off campus, in traditional residential housing (housing open to all students of all majors), or in a residential college. Additionally, high-achieving students can apply to live in the Honors College, a highly selective and competitive living-learning community, similar to content-based residential colleges. Residential colleges for first-year, non-Honors students were first introduced in 2000 as an interdisciplinary residential college, meaning that residents were not segregated by their program of study. Currently, the university has seven discipline-based residential colleges. All residential colleges accept only first-year students, with the exception for one residential college that accepts undergraduate international exchange students as well as first-year students. This study will examine three groups of students: students who chose to live off campus, students who chose to live in a traditional residential hall, and students who chose to live in a content-based residential college during the 2014-2015, 2015-2016, and 2016-2017 academic years. Most of the existing literature focuses on retention from first to second year enrollment, this study will examine retention from the second to third year of enrollment. Traditional freshmen and sophomores generally have the lowest retention rates of college students, whereas juniors and seniors have the highest retention rates (Arnold 1999). Therefore, this study examined retention from the second to third year of enrollment, as it is suggested throughout the literature that students who persist until their third year of study will persist until degree completion.

Purpose of the Study

The purpose of this study was to determine the influence of participation in a content-based residential college versus non-participation in a content-based residential college on retention in the second year of study at a research university-very high research activity (RU/VH) in the southern portion of the United States.

Objectives

The following specific objectives were formulated to guide this research:

1. The first objective of this study was to describe incoming undergraduate students residing in content-based residential colleges who were admitted and enrolled for the Fall 2014 semester as defined by their payment of fees and inclusion in the 14th class day count at a research university-very high research (RU/VH) in the southern region of the United States on the following selected characteristics:

- a. Gender;
- b. Race;
- c. High school grade point average (GPA);
- d. College entrance examination (ACT/SAT) composite scores;
- e. Credit hours the student earned each semester of their first four semesters (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);
- f. Overall grade point average (GPA) at the end of their first year (2014-2015); and at the end of their second year (2015-2016);
- g. Whether or not the student was a resident of the state;
- h. The semester GPA achieved in each of the student's first four semesters of college enrollment (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);

i. Whether or not the student was retained in the university in each of their second through fifth semesters of study;

j. Whether or not the student changed their curricula in their second through fifth semester of study; and

k. The number of times the student changed curricula in their second through fifth semester of study.

2. The second objective of this study was to describe incoming undergraduate students who did not live in residential colleges and were admitted and enrolled for the Fall 2014 semester as defined by their payment of fees and inclusion in the 14th class day count at a research university-very high research (RU/VH) in the southern region of the United States on the following selected characteristics:

- a. Gender;
- b. Race;
- c. High school grade point average (GPA);
- d. College entrance examination (ACT/SAT) composite scores;
- e. Credit hours the student earned each semester of their first four semesters (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);
- f. Overall grade point average (GPA) at the end of their first year (2014-2015);
- g. Overall college grade point average (GPA) at the end of their second year (2015-2016);
- h. Whether or not the student was a resident of the state;
- i. The semester GPA achieved in each of the student's first four semesters of college enrollment (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);

j. Whether or not the student was retained in the university in each of their second through fifth semesters of study;

k. Whether or not the student changed their curricula in their second through fifth semester of study; and

l. The number of times the student changed curricula in their second through fifth semester of study.

3. The third objective of this study was to compare incoming college freshmen who lived in a content-based residential college with those who did not live in a content-based residential college, on the following selected measures:

- a. Gender;
- b. Race;
- c. High school grade point average (GPA);
- d. College entrance examination (ACT/SAT) composite scores;
- e. Credit hours the student earned each semester of their first four semesters (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);
- f. Overall grade point average (GPA) at the end of their first year (2014-2015);
- g. Overall college grade point average (GPA) at the end of their second year (2015-2016);
- h. Whether or not the student was a resident of the state;
- i. The semester GPA achieved in each of the student's first four semesters of college enrollment (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);
- j. Whether or not the student was retained in the university in each of their second through fifth semesters of study;

k. Whether or not the student changed their curricula in each of their second through fifth semester of study; and

l. The number of times the student changed curricula in their second through fifth semester of study.

4. The fourth objective of the study was to determine if a relationship existed between the following selected variables and second-to-third year (fifth semester) student retention:

- a. Gender;
- b. Race;
- c. High school grade point average (GPA);
- d. College entrance examination (ACT/SAT) composite scores;
- e. Credit hours the student earned each semester of their first four semesters (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);
- f. Overall grade point average (GPA) at the end of their first year (2014-2015);
- g. Overall college grade point average (GPA) at the end of their second year (2015-2016);
- h. Whether or not the student was a resident of the state;
- i. The semester GPA achieved in each of the student's first four semesters of college enrollment (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);
- j. Whether or not the student was retained in the university in each of their second through fifth semesters of study;
- k. Whether or not the student changed their curricula in each of their second through fifth semester of study;

l. The number of times the student changed curricula in their second through fifth semester of study; and

m. Type of freshman housing (content-based residential college or not in a content based residential college).

5. The fifth objective of this study was to determine if a model existed that significantly increased the researcher's ability to correctly classify students on their retention from the second to third year, or fifth semester, of study among undergraduate students at a research university-very high research (RU/VH) in the Southern region of the United States from the following measures:

- a. Type of freshman housing (content-based residential college or elsewhere);
- b. Gender;
- c. Race;
- d. High school grade point average (GPA);
- e. College entrance examination (ACT/SAT) composite scores;
- f. Credit hours the student earned during their first semester of enrollment (Fall 2014);
- g. The semester GPA achieved in the first semester of college enrollment (Fall 2014); and
- h. Whether or not the student was a resident of the state.

Definition of Terms

- 1. Persistence: a student-level measure of success used to describe a student who enrolls in college and remains enrolled until earning a degree (Hagedorn, 2005).
- 2. Retention: an institutional-level measure of success that describes students remaining

enrolled from admission until degree completion.

3. Attrition: the shrinking in numbers of students resulting from lower student retention (Hagedorn, 2005).
4. Financial aid: For the purposes of this study, scholarships, grants, TOPS, and loans are considered forms of financial aid.
5. Traditional-age students: students that enroll in college immediately after high school.
6. Hours carried: the number of hours for which the student registered in a semester as reported by the Office of Undergraduate Admissions.
7. Hours earned: the number of hours the student earns in a semester as reported by the Office of Undergraduate Admissions.
8. Graduation rate: measures the number of students who begin college and graduate within a certain number of years (Cook and Pullaro, 2010).
9. Attainment rate: measures the share of the adult population that has a degree (Cook and Pullaro, 2010).

Significance of the Study

It is often said that education is the great equalizer. Regardless of the socioeconomic status to which a person is born, he or she can acquire the essential knowledge, skills, and abilities to prosper through education. We currently live in a society that places great emphasis on obtaining postsecondary education credentials. This is for good reason: studies show that a college graduate earns roughly a million dollars over a lifetime and enjoys other benefits, such as better health, higher levels of civic involvement, and more opportunities for job growth and security.

Therefore, studying retention is important from a variety of perspectives. For the student, a college degree affords financial benefits as well as opportunities for career advancement, higher job satisfaction, greater likelihood for having both a retirement plan and health insurance through an employer, a lower likelihood for being unemployed, and the likelihood of being happy is significantly higher (Trostel and Chase Smith, 2016). From an institutional perspective, it is more cost effective to retain an already enrolled student versus recruiting a new student to replace one that has been lost. The median cost to recruit a new undergraduate student in 2015 was \$578, according to a study conducted by Ruffalo Noel Levitz (Ruffalo Noel Levitz, 2016).

Therefore, student loss equates to revenue loss. At a time where costs associated with pursuing higher education are at an all-time high for the student, the institution, and for the economy, institutions are forced to take student departure seriously. Retention is also a serious issue for state and federal governments. For students who entered college in 2002 and failed to graduate six years later, the cost to the nation was approximately \$3.8 billion in lost income, \$566 million in lost federal income taxes, and \$264 in lost state income taxes (Schneider and Lin, 2011).

Trying to figure out what causes students to leave prior to graduation is not a new endeavor. Many theorists and studies have attempted to explain and predict this pattern of student behavior. Every choice both the institution and student makes influences the likelihood of persisting until graduation, beginning with where the student will live once enrolled. If students elect to leave home, they must choose to live off-campus or on-campus. At a research university-very high (RU/VH) in the southern region of the United States, if the choice is made to remain on-campus, students must choose to live in a traditional residential hall or in a content-based residential college.

This study will observe the influence of student housing and selected academic and personal demographic characteristics on the retention of students from the second to third year at a research university (RU/VH) in an effort to describe characteristics that contribute to the retention of undergraduate students.

CHAPTER 2: REVIEW OF LITERATURE

Introduction

Importance of College Education

It is a commonly accepted belief that education is a fundamental human right. The United Nations upholds this belief and further explains that economically and socially marginalized people can use education as a means of escaping poverty, further enabling them to fully participate as citizens (United Nations Educational, Scientific, and Cultural Organization, 2017). Although the importance of education cannot be denied, the debate over the influence of educational attainment (determined by the highest level of schooling completed) on the well-being of the participant and society has long been debated. In the southern region of the United States, compulsory attendance is required for students between the ages of 7-18 (National Center for Education Statistics, 2015). After compulsory attendance is no longer required by law, students have the option to withdraw from or continue to pursue their education. In recent years, more students have chosen to pursue education beyond high school graduation by attending trade school, community college, or four-year universities (National Center for Education Statistics, 2007). As the number of students pursuing post-secondary education has increased, so has the cost—and not just the cost for attending. The choice to pursue postsecondary education carries with it implications for the student, institution, and society.

An undergraduate degree is a predictor of success. More careers require college degrees, and it is predicted that by 2020, 65% of all jobs in the United States economy will require postsecondary education and training beyond high school: 30% requiring some college or an associate's degree, and 35% requiring at least a bachelor's degree (Carnevale, Smith & Strohl, 2010). Moreover, it is predicted that the United States will fall short by 5 million workers with

postsecondary education by 2020 (Carnevale, Smith & Strohl, 2010). In addition to job security, college graduates make more money. According to College Board, a graduate with at least a bachelor's degree will earn about 66% more than a typical high school graduate over the same period of time (Baum, Ma, and Payea, 2013). Non-financial benefits to earning a college degree include a 47% greater likelihood of having health insurance through employment, 72% greater likelihood of having a retirement plan through employment, a greater degree of job safety, as the incidence of receiving workers' compensation is 2.4 times lower (Trostel, 2014).

The benefits of higher education go beyond the lifetime financial earnings of the graduate. Higher salaries mean higher taxes at the federal, state, and local level. Further, less is spent on income support programs for college graduates. In 2011, 12% of high school graduates ages 25 and older lived in households that relied on SNAP (Supplemental Nutritional Assistance program) benefits, compared to just 2% of those with at least a bachelor's degree (Baum, Ma, and Payea, 2013). College graduates are also more likely to engage in volunteer work, are less likely to commit a crime and 30% less likely to be unemployed (Baum, Ma, and Payea, 2013).

Though there are many benefits to earning a college degree, a college degree is not a synonym for success. Three of the most successful college attendees of the current generation were college dropouts, including Steve Jobs, Bill Gates, and Mark Zuckerberg (Bennett and Wilezol, 2013, p. 118). Many believe that college is not worth the costly investment. Recently, the total student-loan debt in the United States has surpassed \$1 trillion, increasing at a rate of \$2,853.88 per second. President Obama told a group of students in 2012: "We [Michelle and I] only finished paying off our student loans eight years ago" (Department of Education, 2015). President Obama's Secretary of Education, Arne Duncan, countered this statement by positing that "When debt is manageable, this is not a bad debt to have" (United States Department of

Education, 2015). The cost of attending a public university has more than doubled in fifteen years. The University of Alabama increased 205.2% since 2000, whereas Auburn University has increased 199.4% since 2000. Rising costs to attend college only fuel the student loan debt fire—the more college costs, the more students must borrow. The US Department of Education reports the following: “Students who take out college loans but don’t graduate are three times more likely to default than borrowers who complete” (United States Department of Education, 2015). Currently, over 40% of first-time undergraduate students do not graduate within six years, and 54% of those that actually did graduate reported being unemployed or underemployed (Bennett and Wilezol, 2013). Finally, from a job security perspective, fourteen million jobs will be available that will require more than a high school diploma but less than an undergraduate degree (Carnevale, Smith, & Strohl, 2010).

Economists Mary C. Daly and Leila Bengali also attempted to find the answer to the question, “Is it still worth going to college?” Through their study, they concluded that earning a degree continues to be a worthwhile investment and that the benefits far outweigh the price of a degree. They also concluded that the difference between earnings is that, by retirement age, the average college graduate earns over \$800,000 more than the high school graduate (Daly & Bengali, 2014).

Need for Student Numbers

If students are to be provided with the opportunity and resources to receive a college degree, institutions must have adequate numbers of students enrolled. If institutions do not have an adequate number of students enrolled, both the daily operating functions and the academic experience of students is severely impacted. A decline in enrollment leads to a decline of course offerings, directly impacting rates of completion. Student enrollment is tied directly to funding—

and since the Great Recession that began in 2008, funding for colleges and universities has been cut across the country, but most of these institutions have reversed course with their improving economies. In Louisiana, however, funding has been cut more than any other state in the country, with state aid to universities being slashed by 55%. Louisiana was only one of six states to see a decrease in university enrollment between 2009 and 2014 (Russell, 2016). This decrease in enrollments leads to a decrease in tuition-based revenues.

It is estimated that taxpayers spend more than \$9 billion educating first-year students who will not return the following year (Schneider, 2010). The state of Louisiana spent approximately \$217,400,000 on first-year only students and an additional \$49,900,000 of federal grants for these students (Schneider, 2010). Due to the staggering financial implications of first-year only students, careful attention must be paid to student attrition from the first to second year. Attrition is defined as “departure from all forms of higher education prior to completion of a degree or other credential” (Desrochers and Hurlburt, 2013). The Beginning Postsecondary Students Longitudinal Study looked at the costs related to undergraduate attrition and was intended to be a nationally representative sample of postsecondary students. The study found that 19.5% of all costs (an average of \$18,125 per student) were attributed to non-degree, non-enrolled students from the observed sample (Hill, Smith, Wilson, and Wine, 2016). The study found that attrition had differential impacts depending on the institutional type, as attrition accounted for 33% of expenditures at two-year public institutions, 13% at public four-year institutions, and nine percent at private four-year institutions (Hill, Smith, Wilson, & Wine, 2016). Due to these taxpayer subsidies, public institutions face accountability measures tied to funding (e.g., national funds for student financial aid, state general fund appropriations, etc.) (Gumport, 2000). These measures are indicated by average ACT/SAT scores of freshman classes, first-year retention

rates, time and credits to degree, six-year graduation rates. The financial incentives associated with these indicators are essential to organizational survival (The National Center for Public Policy and Higher Education, 2009). Financial incentives are more imperative than ever, especially when states face severe budget cuts. In a national survey conducted in the spring of 2016, Louisiana has cut more funding than any other state since the recession has taken effect, with state aid to universities cut by 55% (Mitchell, Leachman, and Masterson, 2016). Prior to the state's budget crisis, then Governor Bobby Jindal signed into law the Louisiana Granting Resources and Autonomy for Diplomas (GRAD) Act in 2010. Through this legislation, participating universities committed to meeting specific performance objectives in exchange for tuition authority among other benefits. The GRAD Act provided incentives for universities and colleges to increase graduation and retention rates and completers (Board of Regents, 2012 p. 10).

The Board of Regents 2011 Master Plan explained that over the past decade, the percentage of freshmen at four-year colleges and universities returning for their sophomore year has increased substantially, making Louisiana one of the fastest improving states on this measure (Board of Regents, 2012). While this measure is impressive and important, it is not synonymous with persisting until completion. First-to-second year retention does not guarantee that a student will graduate.

It is important to note the difference between the terms *graduation rate* and *attainment rate*. Although often used interchangeably, they carry different connotations. Graduation rate refers to the measure of the students who enter college at the same time and graduate within a certain number of years, whereas the educational attainment rate refers to the share of the US population that has earned a postsecondary degree. Graduation rates affect educational

attainment rates, but are two different metrics. The American Council on Education's study, "College Graduation Rates: Behind the Numbers" posits, "It is clear in nearly every conversation about higher education accountability that graduation rates are increasingly viewed as a critical, if not *the* critical measure of both student and institutional success" (Cook & Pullaro, 2010).

Losing Students is Bad Business for the Economy, Institution, and the Student

Economy. Presently, there are not enough Americans completing college. A study titled, "Help Wanted: Projections of Jobs and Education Requirements Through 2018," conducted by the Georgetown University Center on Education and the Workforce found that, by 2018, the United States will need 22 million new college degrees but will be deficient by at least 3 million postsecondary degrees (Carnevale, Smith, & Strohl, 2010). In previous generations, completion of a high school degree promised a stable, well-paying job. However, as the study points out, higher education has become "the price of admission" for American workers. The study shows that between 1973 and 2008, the share of jobs in the US economy which required postsecondary education increased from 28% to 59%. Ultimately, the study explained that higher education is critical to success in the coming economy.

From a workforce perspective, it is estimated that of the 30 fastest-growing jobs, 70% will require an education beyond high school (Carnevale, Smith, & Strohl, 2010). Swail summarizes: "For every student that drops out of college, society-at-large, loses an opportunity to excel or contribute at the higher echelon of business and trade. Global markets demand higher skills and education, and students that drop out of college leave a gap" (Swail, 2014).

The Louisiana Board of Regents 2011 Master Plan for Postsecondary Education in Louisiana: 2011 explains, "The effects of higher education levels stretch beyond personal fulfillment; the economic stability of the State and the nation is tied to citizens who are employed

in productive, meaningful work” (Board of Regents, 2012 p.6). Despite improvements since the Master Plan was originally implemented in 2001, Louisiana still trails the nation in the percentage of adults who have achieved a postsecondary academic credential. Currently, approximately 56% of all adults living in Louisiana have not attended college and 19% have attended college but did not persist until graduation, therefore not earning a degree. In 2009, Louisiana ranked 47th among the states in the percentage of adults in the workforce and 42nd in median household income (\$42,167). Further, a national study on workforce development found that “unless there are systematic changes, in 2018 Louisiana will rank sixth in the nation of jobs for high school dropouts, rank 5th in the nation in the percentages of jobs for high school graduates; rank 50th in the nation for jobs requiring an associate degree, rank 45th in the nation in the percentage of jobs for college graduates; and rank next to last in the percent of jobs requiring postsecondary education” (Board of Regents, 2012 p. 7). Further, just over 50% of the state’s population with less than a high school diploma participates in the workforce (Board of Regents, 2012 p. 26) and therefore contribute to the economy. Louisiana also falls behind the average of the Southern Regional Education Board (SREB). In order for the state of Louisiana to reach the SREB average by 2025 (the goal set forth in the Master Plan) Louisiana must produce an additional 2,603 undergraduate credentials from 2016-2025. In order for the state to position itself as a competitor in the regional, national, and global economies, Louisiana must have a higher number of educated citizens.

Institution. Students persisting to graduation or certificate completion is a key gauge of student success, and therefore institutional success (Noel-Levitz, 2008). State and federal funding is directly tied to retention and graduation statistics, and is a factor that is displayed in *US News and World Report’s* Best Colleges in America list (Noel-Levitz, 2008). In their report,

“No Time to Waste,” the SREB explains, “Data clearly show persistently low degree-completion rates in most US public colleges and universities; One in four of the first-time college freshmen at public four-year institutions does not return as a sophomore, and four-year graduation rates at most public bachelor’s-and master’s-level institutions rarely exceed 35%” (Southern Region Education Board, 2010 p.1). The most alarming fact from the report explains, “barely half of first-time, full-time freshman graduate with bachelor’s degrees within six years from the same institution where they began” (Southern Region Education Board, 2010 p. 2). This figure repeatedly appears throughout the literature of studies relating to retention, persistence to graduation, and graduation rates.

Student. Beyond benefits to the nation and state, students as individual citizens benefit from postsecondary education. Postsecondary education has become the gatekeeper between the middle class and upper class. According to The Georgetown University Center on Education and the Workforce, in 1970, 44% of the upper class had postsecondary education and training, and by 2007, 81% of upper class workers had postsecondary education and training (Carnevale, Smith, & Strohl, 2014). The Council for a Better Louisiana summarized the need for greater success in postsecondary education: “Educational attainment levels drive nearly every social indicator Louisiana struggles with, from poverty, to crime, to health care, and self-sufficiency. And the higher the educational attainment levels, the better the outcomes” (Board of Regents, 2012 p. 13).

The White House warns, “The most expensive education is one that doesn’t lead to a degree,” and compares the burden of student loan debt of graduates versus non-graduates, explaining that students who take out college loans but do not graduate are three times more likely to default than borrowers who complete further, a students’ ability to repay their loans

depends more strongly on whether they graduate than on how much total debt they take (United States Department of Education, 2016). The SREB agrees: “When students do not complete the degree and certificate programs they begin, they surrender higher personal incomes, substantial tax revenues for state and local governments, and better job opportunities” (Southern Regional Education Board, 2010, p.2).

What Factors Influence Enrollment? Recruitment and Retention.

Recruitment. On the surface, recruitment seems synonymous with college fairs and acceptance letters. However, recruitment at institutions is a highly involved and costly process that begins with the potential student. First, the institution must connect with the student in some way, either by the student reaching out to university or by the university reaching out to the student. A student may take the initiative to schedule a college visit, chat with a recruiter at an event, or connect with the institution in another manner. This may primarily be related to a university’s reputation or due to name recognition. On the other hand, an institution may decide to reach out to the potential student based on recommendations from the College Board or from marketing activities. Once the student is “in the system,” the institution must convince the potential student to apply, and once the student has applied, the institution can decide to accept or not accept the potential student. The recruitment process does not end here however. Once a student is admitted, the institution must convince the student to enroll, and once the student enrolls, an entirely different recruitment process begins. At some institutions, enrolled students must select which college or program of study they are interested before scheduling classes. Although each campus is different, individual colleges and programs of study are now usually charged with “recruiting the recruited” and convincing the newly enrolled student to join. The

median cost to recruit a new undergraduate student in 2015 was \$578, according to a study conducted by Ruffalo Noel Levitz (Ruffalo Noel Levitz, 2016).

Retention. Although similar, many definitions of retention exist. The Integrated Postsecondary Education Data System (IPEDS) defines retention as follows:

A measure of the rate at which students persist in their educational program at an institution, expressed as a percentage. For four-year institutions, this is the percentage of first-time bachelors (or equivalent) degree-seeking undergraduates from the previous fall who are again enrolled in the current fall. For all other institutions this is the percentage of first-time degree/certificate-seeking students from the previous fall who either re-enrolled or successfully completed their program by the current fall (Integrated Postsecondary Education Data System, n.d.).

Noel-Levitz defines retention as, “the outcome of how many students remained enrolled from Fall to Fall. This number is typically derived from first-time, full time traditional day students, but can be applied to any cohort. Theorists also have their own definitions of retention, amplifying certain elements based on their perspectives (Noel-Levitz, 2008). For example, Tinto (1993) defined retention as the “successful completion of students’ academic goals of degree attainment” and Bean (1980) viewed retention as the successful assimilation into the college community, marked by the feeling that one fits in both academically and socially, Astin (1984) also integrated social behaviors into his definition when he referred to retention as “the degree of direct involvement of students in the academic and social life of their institutions,” and Berger and Lyons (2012) defined retention as “the ability of a particular college or university to successfully graduate the students that enroll at that institution.” Although there are many different interpretations of what retention is, one fact is prevalent through all sources of literature: retaining a student is cheaper than recruiting a new crop of students on an annual basis. McGinity (1989) demonstrated that it is far more cost efficient for institutions to retain students they currently have than recruit new ones to replace the ones they lost.

In order to obtain a college degree, a student must persist until graduation. Hagedorn (2005) attempted to differentiate the terms retention and persistence, positing that retention is an institutional-level measure of success, whereas persistence is a student-level measure of success. Seidman (2012) explains,

Students (or their parents) must consciously act to maintain their status in education, as it gets more costly to do so. Because of these costs, those who choose voluntary school or college enrollment must see school enrollment benefits outweighing these costs to persist in the educational system. This student-initiated decision is persistence (Seidman, 2012).

According to Hagedorn, retention is “an intuitional measure and persistence is a student measure,” (Seidman, 2012, p. 6).

Models of Retention

The study of retention and attrition is not a new topic in higher education. The earliest studies can be traced back to 1929, as researchers conducted a follow-up study of freshmen entering The Ohio State University in 1923 to determine the amount of persistence and elimination (drop out).

The researchers identified trends amongst program of study, gender, intelligence, the University’s facilities, and admission requirements as factors that influenced degree attainment. At the time of the study, the graduation rate of undergraduate students in the United States was approximately 50%. This figure remains the same today, meaning that, on average, only half of high school graduates who enter college earn a degree (Swail, 2004). Following that study, in 1938, John McNeely worked with the US Department of Interior and the Office of Education to collect data from 60 institutions to look for trends within data to identify reasons for departure (Berger & Lyons, 2005). With the adoption of the G.I. Bill following World War II, more than two million veterans enrolled in institutions of higher education. With the large influx of students, institutions were launched into a new era of higher education, forcing administrators to

look more closely at student enrollment and retention-related data (Thelin, 2004). The Higher Education Act of 1965 also acted as a catalyst for higher education, as it established federal financial aid and academic support programs, and by the end of the 1960s, retention became a prevalent concern. Therefore, institutions began to invest in research and development regarding student retention (United States Department of Education, 2008).

In the 1970s, three major theories of retention emerged from this investment. Two of theorists related dropout to Durkheim's Theory of Suicide (1961), WG Spady and Vincent Tinto, through the belief that "the likelihood of suicide increases when two types of integration are lacking—insufficient moral integration and insufficient collective affiliation" and drawing a parallel to insufficient interactions with others in the social system of college (Tinto 1975 p. 91). Spady developed a sociological model and proposed five variables that contributed to student dropout: academic potential, normative congruence, academic performance, intellectual development, and friendship support. Of these factors that contributed to student dropout, Spady found that academic performance had the biggest influence (Spady, 1971). Tinto drew upon Spady's work and expanded his model to ultimately conclude that an individual's career goals, commitment to the goal of college completion as well as the individual's commitment to the institution (Tinto, 1975). The third theorist, Alexander Astin, examined the relationship of grants and loans to student persistence and the impact of working on dropping out. He also examined how students develop during the college experience through his model of student involvement. Astin identified three elements that stimulated ongoing involvement in higher education: (1) student demographics and prior experiences; (2) environment a student encounters; (3) student knowledge, attitude, and belief systems (Astin, 1984). The models developed by Spady, Tinto, and Astin began to shape the field of retention as the number of high school graduates declined

sharply during the mid-1970s. That decline, paired with the new body of research by these theorists, lead to the development and emergence of enrollment management as a practice on campuses across the country.

In his 1984 book, enrollment management pioneer Don Hossler posited that enrollment management incorporated the following principles: (1) student marketing and recruiting; (2) pricing and financial aid; (3) academic and career counseling; (4) academic assistance programs; (5) institutional research; (6) orientation; (7) retention programs; and (8) student services (Hossler, 1984). The body of research on recruitment and retention continued to grow with John Bean's development of the Model of Student Departure, containing behavioral and attitudinal measures that he associated with satisfaction with the institution (Bean, 1983). He also examined the importance of background characteristics, such as socioeconomic status, geographic distance from home, and prior academic performance.

The focus of the majority of the retention-related literature from the 1990s was centered on the differentiation in retention and persistence rates amongst underrepresented groups. Compared to Caucasian students, students who identify as African-American are 20% less likely to complete college within a six-year period (Fenske, Porter, and DuBrock, 2000), and comparatively, for every two Caucasian students that dropout, three African-American students withdraw (Fenske, Porter, & DuBrock, 2000). Tinto continued to revise his student integration model, and believed differences in persistence rates were due to their differences in academic preparedness rather than differences in their socioeconomic background. This model contains three dimensions: (1) pre-college characteristics; (2) goals and commitments; and (3) institutional experiences. Within each dimension are a series of attributes, such as "family background" for the attribute pre-college characteristics, and "faculty/staff interactions" for the

institutional experiences attribute. Within the family background attribute of the pre-college characteristics dimension, Tinto defined the measurements of social status, parental education, and size of community. The measurement “receiving passing grades in courses” is in line with the attribute “college academic performance,” and characterized under the institutional experiences dimension. In addition to identifying student attributes, Tinto (1993) revised his theory of student integration model to include two constructs for the student to become acclimated to the institution: academic integration and social integration. Throughout the second half of the decade, attention shifted to student transition periods and providing quality support services (Demetriou & Schmitz-Sciborski, 2011). Collaboration across departments and programs of study came into focus. Swail (1995) proposed a five-component framework for student retention. Components included: (1) financial aid; (2) recruitment and admissions; (3) academic services; (4) curriculum and instruction; and (5) student services. In his research, Swail discussed the importance of leadership on retention, explaining that “senior leadership on campus is often the key ingredient needed to implement successful retention efforts” (Swail, 1995, p. 37). At the conclusion of the 1990s, academic advising became a popular topic of discussion amongst retention experts, with Anderson (1985), Noel-Levitz (1985) and Tinto (1997) highlighting the level of importance students place on academic advising services.

The theme of academic advising and cross-departmental collaboration continued into the 2000s. Common trends identified many years ago are still true at present. Habley (2004) found that student-institution interactions (with faculty, advisors, peers, and administrators) directly influence undergraduate retention. In the same year, Tinto (2004) suggested that all institutions of higher education must offer readily available academic, personal, and social support services, (Tinto, 2004). This remains in line with his theory that interactions influence a student’s sense of

connection to the institution. Most recently, in 2015, Noel Levitz conducted a web-based poll of campus officials. The researchers polled campus officials at private, four-year public, and two-year public institutions across the United States. Officials were asked to rank the effectiveness and usage of 48 common retention practices using a “very effective” to “practice not used” Likert scale. After analyzing the data, the researchers noted that academic support programs and “giving students practical work experience in their field” emerged as the most effective. Additionally, one-on-one advising by staff and first-year student programs were ranked as most effective. The five least-effective strategies and tactics at four-year public institutions included programs designed specifically for transfer students, remaining in contact with students who are leaving, and online social networking to engage students in online communities. In terms of internal operations, the study concluded that identified courses with high withdrawal and/or failure rates and tracking credit hours attempted versus credit hours earned were amongst the top rated internal operations at four-year public institutions. Finally, 52.7% respondents from four-year public institutions indicated that performance-based funding has influenced them to pay more attention to retention and college completion (Noel-Levitz, 2015).

Factors that Influence Persistence

Bridging the gap from theoretical model to best practices, Ruffalo Noel Levitz completes studies every two years to observe best practices in undergraduate student retention and college completion. Their May 2015 study found the following ten survey items were most frequently rated “very or somewhat effective” at four-year public institutions. These rankings are listed by effectiveness, and the practices in *italics* indicates practices that were not currently being used by more than one-quarter of the surveyed institutions.

1. Programs designed specifically for first-year students (e.g. orientation for first-year

students, a first-year experience program);

2. Advising by professional staff, one-on-one;
3. Academic support (e.g. learning center, math lab, tutoring);
4. Honors programs for academically advanced students;
5. Giving students practical work experiences in their intended major (e.g. internships, volunteer work, experiential learning, service learning);
6. *Mandatory advising by professional staff, one-on-one;*
7. *Required on-campus housing for first-year students and supplemental instruction (tie);*
8. Mandatory academic support (e.g. required math course);
9. *Programs designed specifically for veterans;*
10. Training residence hall staff to recognize at-risk students;
11. *Providing each student with an academic plan/roadmap of courses and living learning communities (tie).*

Referring to Swail's Geometric Model of Student Persistence and Achievement, all of these strategies and tactics can be categorized as a part of the institutional factors, with the exception of required on-campus housing for first-year students and living learning communities, as these strategies are more socially driven than institutionally driven. Tinto (2007) explains the social benefits to building peer support groups when he explains, "Participation in a first-year learning community enabled students to develop a network of supportive peers that helped students make the transition to college and integrate them into a community of peers" (Tinto, 2007, p. 5). Living learning communities, commonly referred to as residential colleges, provide an avenue for the intersection of institutional factors, cognitive factors, and social factors.

Aligned with Swail's model, (Figure 1), residential colleges provide the ultimate student experience.

Residential College Influence on Persistence

Residential colleges were introduced at a research intensive university in the south in 2000. Students choosing to live in residential colleges have the opportunity to select an interdisciplinary residential college, comprised of residents of a variety of majors and programs of study, or discipline-based residential colleges, where students share the same major or academic college. During the 2015-2016 academic year, the university was home to two interdisciplinary residential colleges (represented below as HRC and ITRC) and seven discipline-based residential colleges: Business (BRC), Engineering (ERC), Agriculture (ARC), Science (SRC), Mass Communication (MCRC), Global Connections (GCRC), and Human Sciences & Education (HSERC).

Noel-Levitz (2008) identifies residential living as a target area for retention planning, explaining, "The quality of on-campus residential living is an important element in social integration. Through living/learning communities, students become active participants in their academic and social community." Noel-Levitz (2008) also identifies learning communities as a target area for retention planning describing,

approaches that link or cluster classes during a given term, often around an interdisciplinary theme, represent an intentional structuring of students' time, credit, and learning experiences to foster more explicit intellectual connections leading to an integration of classroom and non-classroom experiences, Noel-Levitz (2008).

Seidman (2012) wrote about the relationship between learning communities and student success in his book *College Student Retention: The Formula for Success*. He pointed out that students in learning communities develop supportive peer groups, tend to spend more time together, and become more involved in a range of learning activities, learn more, and persist

more frequently than do students in traditional learning settings (Tinto 1997, 2000; Zhao & Kuh, 2004).

There is very little data to show retention rates beyond the first-to-second year metric. Persistence to the second year of college is not synonymous with attaining a degree or other program completion credential. *Measuring Up* (2008) explains, “Over the past decade, the percentage of freshmen at four-year colleges and universities returning for their sophomore year has increased substantially, making Louisiana one of the fastest improving states on this measure” (Kortez, 2008). However, completion rates are weak. The Master Plan for Postsecondary Education in Louisiana explains, “to raise graduation rates, four-year institutions must strengthen persistence from the first year to the third year in addition to the standard first-to-second year measure” (Board of Regents, 2012, p. 6). Therefore, it is important to examine retention rates beyond the first-to-second year metric.

Summary

A college degree is the “price of admission” to financial success and well-being in today’s economy. Not only does the degree holder benefit from earning a degree, but the institution and economy benefit as well. For students, an undergraduate degree can serve as a forecast for success. A graduate with at least a bachelor’s degree will earn about 66% more than a typical high school graduate over the same period of time (Baum, Ma, & Payea, 2013). For the institution, persisting to graduation or certificate completion is a measurement of student achievement, and therefore institutional success (Noel-Levitz, 2008 p.1). The institution also loses money with each premature student departure. A recent study found that 19.5% of all institutional costs related to undergraduate attrition (an average of \$18,125 per student) were attributed to non-degree, non-enrolled students (Hill, Smith, Wilson, & Wine, 2016). Taxpayers

and the economy also are effected by premature student departure, as it is estimated that taxpayers spend more than \$9 billion educating first-year students who will not return the following year (Schneider, 2010).

Many factors influence a student's decision to persist until degree completion. Theorists such as Tinto (1997), Seidman (2012), Noel-Levitz (2008) and Zhao & Kuh (2004) propose that there is a positive correlation between social integration (such as living-learning communities or residential colleges) and persistence until graduation. Studies also suggest that students who enroll for their third year of study tend to remain enrolled until graduation.

However, most studies are focused on first-to-second year retention rather than second-to-third year retention. Therefore, this study will determine the influence of type of housing on retention in the second year of study.

CHAPTER 3: METHOD

Purpose of the Study

The primary purpose of this study was to determine the influence of participation in a content-based residential college and selected academic and personal demographic characteristics on the second-to-third year retention of traditional-age, first-time freshman students at a research university-very high research (RU/VH) in the Southern region of the United States. The dependent variable of the study was whether or not the traditional-age, first-time freshman students enrolled at the study institution in their fifth semester, or second to third year, of study.

Objectives

The following specific objectives were formulated to guide this research:

1. The first objective of this study was to describe incoming undergraduate students residing in content-based residential colleges who were admitted and enrolled for the Fall 2014 semester as defined by their payment of fees and inclusion in the 14th class day count at a research university-very high research (RU/VH) in the southern region of the United States on the following selected characteristics:
 - a. Gender;
 - b. Race;
 - c. High school grade point average (GPA);
 - d. College entrance examination (ACT/SAT) composite scores;
 - e. Credit hours the student earned each semester of their first four semesters (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);

f. Overall grade point average (GPA) at the end of their first year (2014-2015); and at the end of their second year (2015-2016);

g. Whether or not the student was a resident of the state;

h. The semester GPA achieved in each of the student's first four semesters of college enrollment (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);

i. Whether or not the student was retained in the university in each of their second through fifth semesters of study;

j. Whether or not the student changed their curricula in their second through fifth semester of study; and

k. The number of times the student changed curricula in their second through fifth semester of study.

2. The second objective of this study was to describe incoming undergraduate students who did not live in residential colleges and were admitted and enrolled for the Fall 2014 semester as defined by their payment of fees and inclusion in the 14th class day count at a research university-very high research (RU/VH) in the southern region of the United States on the following selected characteristics:

a. Gender;

b. Race;

c. High school grade point average (GPA);

d. College entrance examination (ACT/SAT) composite scores;

e. Credit hours the student earned each semester of their first four semesters (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);

f. Overall grade point average (GPA) at the end of their first year (2014-2015);

- g. Overall college grade point average (GPA) at the end of their second year (2015 2016);
 - h. Whether or not the student was a resident of the state;
 - i. The semester GPA achieved in each of the student's first four semesters of college enrollment (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);
 - j. Whether or not the student was retained in the university in each of their second through fifth semesters of study;
 - k. Whether or not the student changed their curricula in their second through fifth semester of study; and
 - l. The number of times the student changed curricula in their second through fifth semester of study.
3. The third objective of this study was to compare incoming college freshmen who lived in a content-based residential college with those who did not live in a content-based residential college, on the following selected measures:
- a. Gender;
 - b. Race;
 - c. High school grade point average (GPA);
 - d. College entrance examination (ACT/SAT) composite scores;
 - e. Credit hours the student earned each semester of their first four semesters (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);
 - f. Overall grade point average (GPA) at the end of their first year (2014-2015);
 - g. Overall college grade point average (GPA) at the end of their second year (2015 2016);

- h. Whether or not the student was a resident of the state;
 - i. The semester GPA achieved in each of the student's first four semesters of college enrollment (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);
 - j. Whether or not the student was retained in the university in each of their second through fifth semesters of study;
 - k. Whether or not the student changed their curricula in each of their second through fifth semester of study; and
 - l. The number of times the student changed curricula in their second through fifth semester of study.
4. The fourth objective of the study was to determine if a relationship existed between the following selected variables and second-to-third year (fifth semester) student retention:
- a. Gender;
 - b. Race;
 - c. High school grade point average (GPA);
 - d. College entrance examination (ACT/SAT) composite scores;
 - e. Credit hours the student earned each semester of their first four semesters (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);
 - f. Overall grade point average (GPA) at the end of their first year (2014-2015);
 - g. Overall college grade point average (GPA) at the end of their second year (2015 2016);
 - h. Whether or not the student was a resident of the state;
 - i. The semester GPA achieved in each of the student's first four semesters of college enrollment (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);

j. Whether or not the student was retained in the university in each of their second through fifth semesters of study;

k. Whether or not the student changed their curricula in each of their second through fifth semester of study;

l. The number of times the student changed curricula in their second through fifth semester of study; and

m. Type of freshman housing (content-based residential college or not in a content based residential college).

5. The fifth objective of this study was to determine if a model existed that significantly increased the researcher's ability to correctly classify students on their retention from the second to third year, or fifth semester, of study among undergraduate students at a research university-very high research (RU/VH) in the Southern region of the United States from the following measures:

- a. Type of freshman housing (content-based residential college or elsewhere);
- b. Gender;
- c. Race;
- d. High school grade point average (GPA);
- e. College entrance examination (ACT/SAT) composite scores;
- f. Credit hours the student earned during their first semester of enrollment (Fall 2014);
- g. The semester GPA achieved in the first semester of college enrollment (Fall 2014); and
- h. Whether or not the student was a resident of the state.

Population and Sample

The target population for this study was defined as traditional-age, first-time college freshmen who enrolled in a research university-very high research activity (RU/VH) in the South. The accessible population was defined as traditional age, first-time college freshmen who enrolled in one selected research university-very high research activity (RU/VH) in the 2014-2015 academic year. The sampling plan for this study consisted of the following steps:

a. The accessible population was defined as all traditional-age, first time undergraduate students who were first-time college freshmen and enrolled in one selected research university-very high research activity (RU/VH) in the South during the 2014-2015 academic year and were identified following the 14th class-day statistics from the database of the study institution's Office of the University Registrar.

b. This accessible population was divided into two groups: those that lived in a content-based residential college and those that did not live in a content-based residential college. This data was obtained from the Residential Colleges Annual Report, presented by the Residential Colleges Program at a research-extensive university in the South, as well as the University's Office of the Registrar.

c. The sample was defined as 100% of the accessible population. This data was obtained from the Office of the University Registrar.

Instrumentation

Upon approval to proceed from the IRB and dissertation committee, the researcher designed a computerized recording form (Appendix B) to be utilized to collect and store data from the Office of Undergraduate Admissions and Student Aid. The specific variables measured were determined from the review of literature, from the Residential Colleges Annual Report, and

from the University's Office of the University Registrar. The information was downloaded into a file that serves as the research instrument. The variables that were downloaded included:

- a. Type of freshman housing (content-based residential college or not in a content based residential college);
- b. Gender;
- c. Race;
- d. High school grade point average (GPA);
- e. College entrance examination (ACT/SAT) composite scores;
- f. Credit hours the student earned each of their first four semesters;
- g. Whether or not the student was a resident of the state;
- h. The overall GPA achieved at the end of the first year of college enrollment;
- i. The overall GPA achieved at the end of the second year of college enrollment;
- j. The semester GPA achieved in the each of the first four semesters of college enrollment; and
- k. Whether or not the student is retained in in the fifth semester of college.

Data Collection

First, the researcher applied for Exemption from Institutional Oversight as the accessible population and sample did not involve a vulnerable population and because the participants would not be identified. Once approval was obtained from the IRB and dissertation advisory committee (Appendix A) the researcher designed a computerized recording form (Appendix B) to be utilized to collect and organize data. Then, the researcher contacted the Office of the University Registrar and provided a copy of the Exemption for Institutional Oversight (Appendix A) for computer assistance to collect data regarding the demographic and academic variables

selected from the review of literature. The researcher worked with the Office of the University Registrar to obtain data related to the study. The data was extracted by the Office of the University Registrar, and once the data was shared with the researcher, the researcher concluded the data collection phase by transferring the collected data to the researcher-designed computerized recording form (Appendix B). In accordance with the Exemption from Institutional Oversight, individual identification information was deleted prior to conducting any analyses.

Data Analysis

The data analysis was organized by individual research objectives. Objectives one, two, and three were descriptive in nature and therefore were analyzed using descriptive statistics. The goal for objectives one, two, and three was to describe incoming undergraduate students residing based on whether or not they lived in a content-based residential college during their first year of study (2014-2015). Frequencies and percentages were used for categorical (nominal and ordinal) variables. The specified variables were:

- a. Gender;
- b. Race;
- c. Whether or not the student was a resident of the state;
- d. Whether or not the student is retained in college in the fifth semester of college.

Means and standard deviations were used to analyze variables measured on interval or higher scales. The specific variables in this category were:

- a. High school grade point average (GPA);
- b. College entrance examination (ACT/SAT) composite scores;
- c. Credit hours the student earned each semester;

- d. Overall grade point average (GPA) at the end of their first year (2014 2015);
- e. Overall grade point average (GPA) at the end of their second year (2015 2016); and
- f. The semester GPA achieved in the fifth semester of enrollment (Fall 2016).

Objective four was to compare incoming college freshmen who lived off campus, was descriptive in nature, and therefore analyzed using descriptive statistics. The following variables were continuous in nature and using one-way ANOVA was the most appropriate statistical technique to estimate the relationship between the variables:

- a. The semester GPA achieved in each of the first four semesters of enrollment (Fall 2014, Spring 2015, Fall 2015, Spring 2016); and
- b. Whether or not the student changed major, and if so, the number of times changed.

For the variables that were measured on a categorical scale of measurement (nominal or ordinal), the chi-square test of independence was used to determine if each measures were independent of the variable, whether or not the students were retained at the research institution for the study. The specific variables in this category were:

- a. Whether or not the student lived in a content-based residential college;
- b. Whether or not the student is retained in college each of the first four semesters in college (Fall 2014, Spring 2015, Fall 2015, Spring 2016);
- c. Whether or not the student changed curricula, and if so, the number of times changed; and

- d. Whether or not the student was a resident of the state.

The fifth objective of this study was to determine if a model existed that significantly increased the researcher's ability to correctly classify students on their retention from second to third year among undergraduate students at a research extensive university in the Southern region of the United States from the following measures:

- a. Type of freshman housing (content-based residential college or elsewhere);
- b. Gender;
- c. Race;
- d. High school grade point average (GPA);
- e. College entrance examination (ACT/SAT) composite scores;
- f. Credit hours the student earned during their first semester of enrollment (Fall 2014);
- g. The semester GPA achieved in the first semester of college enrollment (Fall 2014); and
- h. Whether or not the student was a resident of the state.

To accomplish this objective, the multiple discriminant analysis statistical technique was used. The multiple discriminant analysis procedure requires that all independent variables entered into the model must be on a continuous scale of measurement (interval or ratio) or must be coded as a dichotomous variable and requires the dependent variable to be measured on a categorical scale. The dependent variable of this study was whether or not the student remained enrolled in the research institution in the beginning of the third year, or fifth semester of study.

The independent variables for the study were entered into the model as either continuous variables or as binary-coded (dichotomous) variables. The independent variables in this category were coded for the analysis as outlined below:

a. Type of freshman housing (content-based residential college or not in a content based residential college): This was coded as follows: If the student resided in a content-based residential college, it will be coded as 1, if the student did not reside in a content-based residential college, it was coded as 0.

b. Gender: This was coded as female = 0; male = 1.

c. Race: Each of the racial variables were coded as a binary variable and each subject was categorized by either possessing the trait or not possessing the trait. For example, a variable was created for the Caucasian race in which the subjects were classified as either possessing the trait of being Caucasian, coded as 1, or not possessing the trait of Caucasian, coded as 0. This was repeated for each of the other racial categories. The race categories of American Indian or Alaskan Native and Native Hawaiian or other Pacific Islander were not included in this analysis due to insufficient numbers.

d. High school grade point average (GPA): This was measured as a continuous variable.

e. College entrance examination (ACT/SAT) composite scores: This was measured as a continuous variable.

f. Credit hours the student earned in the first semester: This was measured as a continuous variable.

g. The semester GPA achieved in the first semester of college enrollment: This was measured as a continuous variable.

h. Whether or not the student is retained in the fifth semester of college: If the student was retained in college in the fifth semester of college, it was coded as 1, and if the student was not retained, it was coded as 0; and

i. Whether or not the student was a resident of the state in which the study institution was located: If the student was a resident of the state in which the study institution was located, it was coded as 1 and if the student was not a resident of the state in which the study institution was located, it was coded as 0.

CHAPTER 4: RESULTS

The primary purpose of this study was to determine the influence of participation in a content-based residential college as well as selected academic and personal demographic characteristics on the second-to-third year retention of traditional-age, first-time freshman students at a research university-very high research (RU/VH) in the Southern region of the United States. The dependent variable of the study was whether or not the traditional-age, first-time freshman students enrolled at the study institution in the beginning of their third year, or fifth semester, of study.

The following specific objectives were formulated to guide this research:

1. The first objective of this study was to describe incoming undergraduate students residing in content-based residential colleges who were admitted and enrolled for the Fall 2014 semester as defined by their payment of fees and inclusion in the 14th class day count at a research university-very high research (RU/VH) in the southern region of the United States on the following selected characteristics:

- a. Gender;
- b. Race;
- c. High school grade point average (GPA);
- d. College entrance examination (ACT/SAT) composite scores;
- e. Credit hours the student earned each semester of their first four semesters (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);
- f. Overall grade point average (GPA) at the end of their first year (2014-2015), and at the end of their second year (2015-2016);
- g. Whether or not the student was a resident of the state;

h. The semester GPA achieved in each of the student's first four semesters of college enrollment (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);

i. Whether or not the student was retained in the university in each of their second through fifth semesters of study;

j. Whether or not the student changed their curricula in their second through fifth semester of study; and

k. The number of times the student changed curricula in their second through fifth semester of study.

2. The second objective of this study was to describe incoming undergraduate students who did not live in residential colleges and were admitted and enrolled for the Fall 2014 semester as defined by their payment of fees and inclusion in the 14th class day count at a research university-very high research (RU/VH) in the southern region of the United States on the following selected characteristics:

a. Gender;

b. Race;

c. High school grade point average (GPA);

d. College entrance examination (ACT/SAT) composite scores;

e. Credit hours the student earned each semester of their first four semesters (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);

f. Overall grade point average (GPA) at the end of their first year (2014-2015);

g. Overall college grade point average (GPA) at the end of their second year (2015-2016);

h. Whether or not the student was a resident of the state;

i. The semester GPA achieved in each of the student's first four semesters of college enrollment (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);

j. Whether or not the student was retained in the university in each of their second through fifth semesters of study;

k. Whether or not the student changed their curricula in their second through fifth semester of study; and

l. The number of times the student changed curricula in their second through fifth semester of study.

3. The third objective of this study was to compare incoming college freshmen who lived in a content-based residential college with those who did not live in a content-based residential college, on the following selected measures:

a. Gender;

b. Race;

c. High school grade point average (GPA);

d. College entrance examination (ACT/SAT) composite scores;

e. Credit hours the student earned each semester of their first four semesters (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);

f. Overall grade point average (GPA) at the end of their first year (2014-2015);

g. Overall college grade point average (GPA) at the end of their second year (2015-2016);

h. Whether or not the student was a resident of the state;

i. The semester GPA achieved in each of the student's first four semesters of college enrollment (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);

j. Whether or not the student was retained in the university in each of their second through fifth semesters of study;

k. Whether or not the student changed their curricula in each of their second through fifth semester of study; and

l. The number of times the student changed curricula in their second through fifth semester of study.

4. The fourth objective of the study was to determine if a relationship existed between the following selected variables and second-to-third year (fifth semester) student retention:

a. Gender;

b. Race;

c. High school grade point average (GPA);

d. College entrance examination (ACT/SAT) composite scores;

e. Credit hours the student earned each semester of their first four semesters (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);

f. Overall grade point average (GPA) at the end of their first year (2014-2015);

g. Overall college grade point average (GPA) at the end of their second year (2015-2016);

h. Whether or not the student was a resident of the state;

i. The semester GPA achieved in each of the student's first four semesters of college enrollment (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);

j. Whether or not the student was retained in the university in each of their second through fifth semesters of study;

k. Whether or not the student changed their curricula in each of their second

through fifth semester of study;

l. The number of times the student changed curricula in their second through fifth semester of study; and

m. Type of freshman housing (content-based residential college or not in a content-based residential college).

5. The fifth objective of this study was to determine if a model existed that significantly increased the researcher's ability to correctly classify students on their retention from the second to third year, or fifth semester, of study among undergraduate students at a research university-very high research (RU/VH) in the Southern region of the United States from the following measures:

a. Type of freshman housing (content-based residential college or elsewhere);

b. Gender;

c. Race;

d. High school grade point average (GPA);

e. College entrance examination (ACT/SAT) composite scores;

f. Credit hours the student earned during their first semester of enrollment (Fall 2014);

g. The semester GPA achieved in the first semester of college enrollment (Fall 2014); and

h. Whether or not the student was a resident of the state.

Students who were included in the 14th day enrollment count of the Fall 2014 semester at a research university-very high research (RU/VH) in the Southern region of the United States, and were traditional-age freshman students were gathered by the Office of the University

Registrar. The researcher defined a “freshman student” as one who enrolled immediately after high school or before attending any other university and was included on the 14th class day count of the Fall 2014 semester, and this group became the accessible population. This accessible population was comprised of 5,542 students. The sample was defined as 100% of the accessible population. Of these 5,542 students, 1,363 resided in a content-based residential college and 4,179 did not reside in a content-based residential college during their first year of study. This chapter presents the result of the study by objective.

Objective One Results

The first objective of this study was to describe incoming undergraduate students residing in content-based residential colleges who were admitted and enrolled for the Fall 2014 semester as defined by their payment of fees and inclusion in the 14th class day count at a research university-very high research (RU/VH) in the southern region of the United States on the following selected characteristics:

- a. Gender;
- b. Race;
- c. High school grade point average (GPA);
- d. College entrance examination (ACT/SAT) composite scores;
- e. Credit hours the student earned each semester of their first four semesters (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);
- f. Overall grade point average (GPA) at the end of their first year (2014-2015);
- g. Overall college grade point average (GPA) at the end of their second year (2015-2016);

- h. Whether or not the student was a resident of the state;
- i. The semester GPA achieved in each of the student's first four semesters of college enrollment (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);
- j. Whether or not the student was retained in the university in each of their second through fifth semesters of study;
- k. Whether or not the student changed their curricula in their second through fifth semester of study; and
- l. The number of times the student changed curricula in their second through fifth semester of study.

There were 1,373 students who met the criteria of this objective. The results for each of these variables are as follows:

Gender

The first variable on which the students were described was gender. Of the 1,373 students who resided in a content-based residential college, 577 (42.0%) were identified as female and 796 (58.0%) were identified as male.

Race

The second variable on which the students were described was race. Of the 1,373 students who resided in a content-based residential college, 1,371 reported their race, and the remaining two individuals did not provide this information. Of the 1,371 students who identified their race, the largest group of students was Caucasian ($n = 974$, 71.0%). The second largest group of students identified themselves as Black or African-American ($n = 200$, 14.6%). This data is presented in Table 1.

Table 1 Race of Students Who Were Admitted and Enrolled and Lived in a Content-Based Residential College at a Research University-Very High Research (RU/VH) in the Southern Region of the United States

Race	Frequency ^a	Percent
Caucasian	974	71.0
Black or African-American	200	14.6
Hispanic	103	7.5
Asian	49	3.6
Multi-Racial	42	3.0
American Indian or Alaskan Native	2	.2
Native Hawaiian or Other Pacific Islander	1	.1
Total	1371	100

^aTwo individuals did not report their race.

High School Grade Point Average (GPA)

The high school grade point average (GPA) was another variable that was used to describe the students who lived in a content-based residential college. The mean GPA for these students was 3.40 (SD = .370). The GPAs for these students ranged from a low of 2.29 to a high of 4.00.

When the high school GPAs were examined in ranges of measurements, the range of scores that had the largest number of students was the 3.25-3.49 category ($n = 302$, 22.0%). The distribution of these ranges is presented in Table 2.

Table 2 High School Grade Point Averages (GPA) for Students Who Lived in a Content-Based Residential College at a Research University-Very High Research (RU/VH) in the Southern Region of the United States

GPA Range	Frequency	Percent
4.00	90	6.6
3.75—3.99	226	16.5
3.50—3.749	271	19.7
3.25—3.49	302	22.0
3.00—3.249	297	21.6
2.75—2.99	130	9.5
2.50—2.749	48	3.5
Less than 2.50	9	.7
Total	1373	100.0

Note. Mean GPA = 3.40 (SD = .370), Range: 2.29—4.0.

College Entrance Examination (ACT/SAT) Composite Scores

At the study institution, all applicants are required to submit a college entrance examination score report. Both the ACT and SAT are accepted. SAT scores are converted to the ACT equivalent by The Office of Undergraduate Admissions, using the “Concordance Between SAT I Recentered V + M (Verbal and Math) Score and ACT Composite Score Table” (see Appendix C). If students submitted more than one score report to the study institution, the highest score was used. The mean composite score on the ACT for students who lived in a content-based residential college was 25.96 ($SD = 3.347$). The scores ranged from a low of 18 to a high of 36. Of the eight residential colleges observed in this study, two have minimum ACT requirements for admission. The Science Residential College requires a minimum composite score of a 23 on the ACT, whereas the Engineering Residential College requires a minimum ACT score of 23 on the math portion of the test. The remaining discipline-based residential colleges do not have a minimum ACT requirement for admission.

When the college entrance examination scores were examined in ranges of measurement, the largest group of scores was the 26-27 category ($n = 290$, 21.1%), whereas the smallest group was the 18-19 category ($n = 18$, 1.3%). It should be noted that one student had a maximum score of 36 on the ACT (See Table 3).

Table 3 Composite Scores on the College Entrance Examination (ACT) for Students Living in a Content-Based Residential College at a Research University-Very High Research (RU/VH) in the Southern Region of the United States

ACT Score	Frequency	Percent
36	1	.1
34-35	22	1.6
32-33	54	3.9
30-31	126	9.2
28-29	252	18.4
26-27	290	21.1
24-25	271	19.7

(Table 3 continued)

(Table 3 continued)

ACT Score	Frequency	Percent
22-23	228	16.6
20-21	111	8.1
18-19	18	1.3
Total	1373	100.0

Note. Mean composite score: 25.96 ($SD = 3.347$), Range: 18—36.

Credit Hours the Student Earned Each Semester

Another variable, credit hours earned each semester, was used to describe the academic progress of students enrolled in content-based residential colleges. To be considered a full-time undergraduate student at the study institution, students must carry 12 or more hours of credit in a regular semester. The study institution advises that, in order to graduate in four years, students should earn at least 15 credit hours per semester and plan on attending at least one summer term.

In Fall 2014, for the 1,373 students enrolled in content-based residential colleges, the mean number of credit hours earned was 12.90 ($SD = 3.462$), with the lowest number of credit hours earned being 0 and the highest number of credit hours earned being 18. For the Spring 2015 semester, for the 1,314 students enrolled in content-based residential colleges, the mean number of credit hours earned was 13.11 ($SD = 3.352$). The lowest number of credit hours earned was 0 and the highest number of credit hours earned was 21. The students that lived in a content-based residential college in the Fall of 2014, on average, earned 12.99 ($SD = 3.188$) credit hours during the Fall 2015 semester. The minimum number of credit hours earned was 0 and the maximum was 19. The students that lived in a content-based residential college in the Fall of 2014, on average, earned 13.24 credit hours during the Spring 2016 semester. The minimum number of credit hours earned was 0 and the maximum was 21. Each semester, the 15-17 credit hours earned category had the highest number of frequencies.

Students that carried less than 12 credit hours each semester were not considered full-time students. In the Fall 2014 semester, 21.4% ($n = 294$) of the students dropped below full-time status. Subsequent semesters yielded similar frequencies: in the Spring 2015 semester, 18.7% ($n = 245$) of students dropped below full-time status, in the Fall 2015 semester, 20.6% ($n = 245$) of students dropped below full-time status, and in the Spring 2016 semester, 18.8% ($n = 214$) of students dropped below full-time status. The data is presented in Table 4.

Table 4 Credit Hours Earned Each of the First Four Semester for Students Living in a Content-Based Residential College at a Research University-Very High Research (RU/VH) in the Southern Region of the United States

Credit Hours Earned	Fall 2014 ^a		Spring 2015 ^b		Fall 2015 ^c		Spring 2016 ^d	
	Freq.	Percent	Freq.	Percent	Freq.	Percent	Freq.	Percent
18 or more	13	.9	26	2.0	20	1.7	43	3.8
15-17	579	42.2	561	42.7	484	40.7	503	44.3
12-14	487	35.5	482	36.7	441	37.1	376	33.1
9-11	167	12.2	145	11.0	157	13.2	135	11.9
6-8	68	5.0	51	3.9	53	4.5	46	4.0
3-5	36	2.6	29	2.2	22	1.8	19	1.7
1-2	5	.4	2	.2	2	.2	2	.2
0	18	1.3	18	1.4	11	.9	12	1.1
TOTAL	1373	100.0	1314	100.0	1190	100.0	1136	100.0

^aDuring the Fall 2014 semester, the mean hours earned was 12.90 ($SD = 3.462$) and the range was 0—18.

^bFor the Spring 2015 semester, the mean number of credit hours earned was 13.11 ($SD = 3.352$) and the range was 0—21.

^cDuring the Fall 2015 semester, the mean number of credit hours earned was 12.99 ($SD = 3.188$) and the range was 0—19.

^dDuring the Spring 2016 semester, the mean number of credit hours earned was 13.24 ($SD = 3.265$) and the range was 0—21.

Overall Grade Point Average (GPA) at the End of the First Year

At the study institution, a grade point average (GPA) of 2.0 is required for graduation. For the end of their first year of study (Spring 2016) Grades of “A,” “B,” and “C” were assigned for satisfactory work. A grade of “D” indicated minimally acceptable achievement for credit, and in some colleges, a grade of “D” in certain courses did not allow that credit to count to be applied

to a degree. A grade of “F” was failing. An undergraduate student’s grade point average (GPA) was determined by the ratio of quality points earned to semester hours attempted and were assigned to letter grades using the following scale:

“A” = 4 quality points;

“B” = 3 quality points;

“C” = 2 quality points;

“D” = 1 quality point;

“F” = 0 quality points.

For students that lived in a content-based residential college at a research university-very high research (RU/VH) in the southern portion of the United States, the overall GPA at the end of their first year of study was another measured variable. Of the 1,373 students who lived in a content-based residential college in the Fall of 2014, the mean GPA was 2.89 (SD = .769). The lowest GPA was 0.00 and highest GPA was 4.0. The category with the highest frequency of occurrences was the range of GPAs from 3.0—3.24 ($n = 232$). The frequency of occurrences can be found in Table 5.

Overall College Grade Point Average (GPA) at the End of Their Second Year

During the Fall 2015 semester, plus/minus grading was introduced at the study institution. Letter grades of “A,” “B,” and “C” were assigned for satisfactory work. A grade of “D” indicated minimally acceptable achievement for credit, and in some colleges, a grade of “D” in certain courses did not allow that credit to count to be applied to a degree. Letter grades A, B, C, and D had the suffix plus (+) or minus (-) to distinguish higher and lower performances within each of the letter grades. A grade of “F” was failing and did not include the plus (+) or minus (-) distinction. An undergraduate student’s grade point average (GPA) is determined by the ratio of

quality points earned to semester hours attempted and are assigned to letter grades using the following scale:

“A+” = 4.3 quality points;

“A” = 4 quality points;

“A-” = 3.7 quality points;

“B+” = 3.3 quality points;

“B” = 3 quality points;

“B-” = 2.7 quality points;

“C+” = 2.3 quality points;

“C” = 2 quality points;

“C-” = 1.7 quality points;

“D+” = 1.3 quality points;

“D” = 1 quality point;

“D-” = 0.7 quality point;

“F” = 0 quality points.

For students that lived in a content-based residential college at a research university-very high research (RU/VH) in the southern portion of the United States, the overall grade point average earned at the end of their second year of study was another measured variable. Of the 1,373 students who lived in a content-based residential college in the Fall of 2014, 1,211 were observed at the completion of the following year. The mean GPA was 2.96 (SD = .606). The lowest GPA was 0.00 and highest GPA was 4.127. The category under which the most students fell was the 3.00—3.24 GPA category ($n = 232$). The frequency of occurrences of GPAs in ranges of scores can be found in Table 5.

Table 5 Distribution of Overall Grade Point Averages (GPA) for Students Living in a Content-Based Residential College at the End of Their First Year (2014-2015) and Second Year (2015-2016) of Study

Overall GPA Range	First Year ^a (2014-2015)		Second Year ^b (2015-2016)	
	Frequency	Percent	Frequency	Percent
4.00 and above	49	3.6	90	6.8
3.75 – 3.99	116	8.4	89	6.8
3.50 – 3.74	140	10.2	110	8.4
3.25 – 3.49	191	13.9	159	12.1
3.00 – 3.24	232	16.9	245	18.6
2.75—2.99	163	11.9	129	9.8
2.50—2.74	148	10.8	135	10.3
2.49—2.25	90	6.6	84	6.4
2.25—2.0	95	6.9	84	6.4
1.9—1.75	44	3.2	48	3.7
1.74 and below	105	7.6	141	10.7
Total	1373	100.0	1211	100.0

^a For the first year (2014-2015) the mean GPA was 2.89 (SD = .769) and the range was 0.00—4.00.

^b For the second year (2015-2016) the mean GPA was 2.96 (SD = .769) and the range was 0.00—4.00. There were 59 missing cases.

Whether or not the Student was a Resident of the State

Students were described on whether or not they were categorized as residents of the state in which the study institution was located. The majority ($n = 1048$, 76.30%) were residents of the state and 325 students (23.70%) were nonresidents.

GPA Earned Each Semester

Students that lived in a content-based residential college during their freshman year were described using the grade point average they earned each of their first four semesters. Plus/minus grading was introduced in the Fall 2015 semester. Therefore, the possible GPAs for the first two semesters was 0.00—4.00 while the possible GPAs for the second two semesters was 0.00 to 4.30. For all four of the semesters, the mean GPAs of the students who lived in a content-based residential college during their freshman year was 2.8 and 2.9 (see Table 6). The highest mean GPA was achieved during the Spring 2016 semester (M = 2.860, SD = .851). When the GPAs

were examined in categories, for the first three semesters of study (Fall 2014, Spring 2015, Fall 2015) students most frequently earned GPAs in the 3.00—3.24. During the Spring 2016 semester, more students earned GPAs in the 3.25—3.49 range. The data is presented in Table 6.

Table 6 GPA Earned Each if the First Four Semesters for Students Living in a Content-Based Residential College at a Research University-Very High Research (RU/VH) in the Southern Region of the United States

GPA Earned Each Semester	Fall 2014 ^a		Spring 2015 ^b		Fall 2015 ^c		Spring 2016 ^d	
	Freq.	Percent	Freq.	Percent	Freq.	Percent	Freq.	Percent
4.00 and above	120	8.7	90	6.8	52	4.4	47	4.1
3.75 – 3.99	104	7.6	89	6.8	86	7.2	87	7.7
3.50 – 3.74	142	10.3	110	8.4	146	12.3	141	12.4
3.25 – 3.49	165	12.0	159	12.1	135	11.3	166	14.6
3.00 – 3.24	218	15.9	245	18.6	155	13.0	144	12.7
2.75—2.99	125	9.1	129	9.8	132	11.1	123	10.8
2.50—2.74	128	9.3	135	10.3	125	10.5	120	10.6
2.49—2.25	97	7.1	84	6.4	110	9.2	87	7.7
2.25—2.0	80	5.8	84	6.4	78	6.6	57	5.0
1.9—1.75	47	3.4	48	3.7	58	4.9	41	3.6
1.74 and below	147	10.7	141	10.7	113	9.5	123	10.8
Total	1373	100.0	1314	100.0%	1190	100.0%	1136	100.0%

^a During the Fall 2014 semester, the mean GPA earned was 2.856 ($SD = .890$) and the range was 0.00—4.00.

^b For the Spring 2015 semester, the mean GPA earned was 2.816 ($SD = .861$) and the range was 0.00—4.00. There were 59 missing cases.

^c During the Fall 2015 semester, the mean GPA earned was 2.838 ($SD = .827$) and the range was 0—4.30. There were 183 missing cases. Plus/minus grading was introduced in this semester.

^d During the Spring 2016 semester, the GPA earned was 2.860 ($SD = .851$) and the range was 0.00—4.300. There were 237 missing cases.

Whether or not the Student is Retained in College in the Second Through Fifth Semester

Students who lived in a content-based residential college were described by whether or not they were retained in each of their second through fifth semesters of study (Spring 2015-Fall 2016). The biggest decrease in retention was between the Spring 2015 (4.3% were not retained) and Fall 2015 semesters (13.3% were not retained). It is presented in Table 7.

Table 7 Retention by Semester for Students Living in a Content-Based Residential College at a Research University-Very High Research (RU/VH) in the Southern Region of the United States

Was the student retained?	Spring 2015 ^a		Fall 2015 ^b		Spring 2016 ^c		Fall 2016 ^d	
	Freq.	Percent	Freq.	Percent	Freq.	Percent	Freq.	Percent
Yes	1314	95.7%	1190	86.7%	1136	82.7%	1069	77.9%
No	59	4.3%	183	13.3%	237	17.3%	304	22.1%
TOTAL	1373	100.0%	1373	100.0%	1373	100.0%	1373	100.0%

^a Mean = .96 (SD = .203)

^b Mean = .87 (SD = .340)

^c Mean = .83 (SD = .378)

^d Mean = .78 (SD = .415)

Whether or not the Student is Retained in College in the Fifth Semester of College

Whether or not the student was retained in the fifth semester of college was another variable used to describe students that lived in a content-based residential college in Fall 2014. In the Fall 2014 semester, 1,373 resided in a content-based residential college. Of the 1,373 students that lived in a content-based residential college in the Fall 2014 semester, 1,069 (77.9%) students were included on the 14th day enrollment count, whereas 304 (22.1%) students were not included on the 14th day enrollment count, indicating they were no longer enrolled at the study institution.

Whether or not the Student is Retained in Their Chosen Curriculum

At the study institution, requests for curricula changes are not processed until the end of the semester, meaning that changes will not take effect until the beginning of the following semester. Therefore, for the students who began their program of study in the Fall 2014 term and chose to change curricula or programs of study, changes took place in the Spring 2015, Fall 2015, Spring 2016, and Fall 2016 semesters. During the Spring 2015 semester, 17.7% ($n = 220$) of students who lived in a content-based residential college changed curricula. The following semester, Fall 2015, 27.2% of students ($n = 313$) changed curricula. In the Spring 2016 semester,

21.7% ($n = 244$) of students who lived in a content-based residential college changed curricula and in the Fall 2016 semester, 18.8% of students ($n = 199$) changed curricula (Table 8). In addition to identifying whether or not students changed curricula each semester, the researcher summed the number of times that these changes in curricula occurred for each student. This served as a measure of the total number of times that students changed curricula. The mean number of curriculum changes for all students was .75 ($\underline{SD} = .875$) and the range was 0-4.

Table 8 Whether or Not Student Changed Curricula by Semester for Students Living in a Content-Based Residential College at a Research University-Very High Research (RU/VH) in the Southern Region of the United States

Did the student change curricula?	Spring 2015 ^a		Fall 2015 ^b		Spring 2016 ^c		Fall 2016 ^d	
	Freq.	Percent	Freq.	Percent	Freq.	Percent	Freq.	Percent
Yes	262	19.7%	346	28.9%	251	22.0%	202	18.9%
No	1066	80.3%	852	71.1%	892	78.0%	869	81.1%
TOTAL	1328	100.0%	1198	100.0%	1143	100.0%	1058	100.0%

Note. $\underline{M} = .75$, $\underline{SD} = .875$, Range: 0-4.

^a During the Spring 2015 semester, there were 45 missing cases.

^b For the Fall 2015 semester, there were 175 missing cases.

^c During the Spring 2016 semester, there were 230 missing cases.

^d During the Fall 2016 semester, there were 302 missing cases.

Objective Two Results

The second objective of this study was to describe incoming undergraduate students who did not live in residential colleges and were admitted and enrolled for the Fall 2014 semester as defined by their payment of fees and inclusion in the 14th class day count at a research university-very high research (RU/VH) in the southern region of the United States on the following selected characteristics:

- a. Gender;
- b. Race;
- c. High school grade point average (GPA);

- d. College entrance examination (ACT/SAT) composite scores;
- e. Credit hours the student earned each semester of their first four semesters (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);
- f. Overall grade point average (GPA) at the end of their first year (2014-2015);
- g. Overall college grade point average (GPA) at the end of their second year (2015-2016);
- h. Whether or not the student was a resident of the state;
- i. The semester GPA achieved in each of the student's first four semesters of college enrollment (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);
- j. Whether or not the student was retained in the university in each of their second through fifth semesters of study;
- k. Whether or not the student changed their curricula in their second through fifth semester of study; and
- l. The number of times the student changed curricula in their second through fifth semester of study.

There were 4,169 students who met the criteria of this objective. The results for each of these variables are as follows:

Gender

The first variable on which the students were described was gender. Of the 4,169 students who did not reside in a content-based residential college, 2,413 (57.9%) were identified as female and 1,756 (42.1%) were identified as male.

Race

The second variable on which the students were described was race. Of the 4,169 students who did not reside in a content-based residential college, 4,157 reported their race, and the remaining 12 individuals did not provide this information. Of the 4,157 students who identified their race, the largest group of students was Caucasian ($n = 3,088$, 74.1%). The second largest group of students identified themselves as Black or African-American ($n = 482$, 11.6%). (See Table 9).

Table 9 Race of Students Who Were Admitted and Enrolled and Did Not Live in a Content-Based Residential College at a Research University-Very High Research (RU/VH) in the Southern Region of the United States

Race	Frequency ^a	Percent
Caucasian	3,088	74.1
Black or African-American	482	11.6
Hispanic	259	6.2
Asian	196	4.7
Multi-Racial	113	2.7
American Indian or Alaskan Native	14	.3
Native Hawaiian or Other Pacific Islander	5	.1
Total	4,157	99.7

^a Twelve individuals did not provide this information.

High School Grade Point Average (GPA)

The high school grade point average (GPA) was another variable that was used to describe the students who did not live in a content-based residential college. The mean GPA for these students was 3.44 ($SD = .380$). The GPAs for these students ranged from a low of 2.08 to a high of 4.00.

When the high school GPAs were examined in ranges of measurements, the range of scores that had the largest number of students was the 3.50-3.75 category ($n = 900$, 21.6%). The distribution of these ranges is presented in Table 10.

Table 10 High School Grade Point Averages (GPA) for Students Who Did Not Live in a Content-Based Residential College at a Research University-Very High Research (RU/VH) in the Southern Region of the United States

GPA Range	Frequency	Percent
4.00	279	6.7
3.75—3.99	805	19.4
3.50—3.749	900	21.6
3.25—3.49	852	20.5
3.00—3.249	809	19.4
2.75—2.99	363	8.7
2.50—2.749	120	2.9
Less than 2.50	41	.80
Total	4,160 ^a	100.0

Note. Mean = 3.44 (SD = .411); Range = 2.08—4.00.

^a. Data was unavailable for nine of the students.

College Entrance Examination (ACT/SAT) Composite Scores

At the study institution, all applicants are required to submit a college entrance examination score report. Both the ACT and SAT are accepted. SAT scores are converted to the ACT equivalent by The Office of Undergraduate Admissions, using the “Concordance Between SAT I Recentered V + M (Verbal and Math) Score and ACT Composite Score Table” (see Appendix C). If students submitted more than one score report to the study institution, the highest score was used. The mean composite score on the ACT for students who did not live in a content-based residential college was 25.56 (SD = 3.496). The scores ranged from a low of 14 to a high of 36. One student’s score was not reported.

When the college entrance examination scores were examined in ranges of measurement, the largest group of scores was the 26-27 category ($n = 290$, 21/1%), whereas the smallest group was the 18-19 category ($n = 18$, 1.3%). It should be noted that three students had a maximum score of 36 on the ACT. This data is presented in Table 11.

Table 11 Composite Scores on the College Entrance Examination (ACT) for Students Not Living in a Content-Based Residential College at a Research University-Very High Research (RU/VH) in the Southern Region of the United States

ACT Score	Frequency	Percent
36	3	.1
34-35	55	1.3
32-33	173	4.2
30-31	410	9.8
28-29	580	13.9
26-27	714	17.1
24-25	901	21.6
22-23	846	20.3
20-21	416	10.0
18-19	70	1.7
Total	4168 ^a	100.0

^a. One student's score was not reported.

Credit Hours the Student Earned Each Semester

Another variable, credit hours earned each semester, was used to describe the academic progress of students enrolled and not living in a content-based residential college. To be considered a full-time undergraduate student at the study institution, students must carry 12 or more hours of credit in a regular semester. The study institution advises that, in order to graduate in four years, students should earn at least 15 credit hours per semester and plan on attending at least one summer term.

In the Fall 2014, for the 4,169 students who were not enrolled in a content-based residential college, the mean number of credit hours earned was 12.77 (SD = 3.460), with the lowest number of credit hours earned being 0 and the highest number of credit hours earned being 19. For the Spring 2015 semester, for the 3,939 students who did not live in content-based residential colleges, the mean number of credit hours earned was 13.02 (SD = 3.330). The lowest number of credit hours earned was 0 and the highest number of credit hours earned was 22. The students that did not live in content-based residential colleges in the Fall of 2014, on average, earned 13.03 (SD = 3.294) credit hours during the Fall 2015 semester. The minimum number of

credit hours earned was 0 and the maximum was 22. The students that did not live in a content-based Residential College in the Fall of 2014, on average, earned 13.21 ($\underline{SD} = 3.438$) credit hours during the Spring 2016 semester. The minimum number of credit hours earned was 0 and the maximum was 22. Each semester, the 15-17 credit hours earned category had the highest number of frequencies.

Students that carried less than 12 credit hours each semester were not considered full-time students. In the Fall 2014 semester, 21.3% ($n = 889$) of the students dropped below full-time status. Subsequent semesters yielded similar frequencies: in the Spring 2015 semester, 17.9% ($n = 706$) of students dropped below full-time status, in the Fall 2015 semester, 19.1% ($n = 671$) of students dropped below full-time status, and in the Spring 2016 semester, 17.3% ($n = 572$) of students dropped below full-time status. The data is presented in Table 12.

Table 12 Credit Hours Earned Each of the First Four Semesters for Students Who Did Not Live in a Content-Based Residential College at a Research University-Very High Research (RU/VH) University in the Southern Region of the United States

Credit Hours Earned	Fall 2014 ^a		Spring 2015 ^b		Fall 2015 ^c		Spring 2016 ^d	
	Freq.	Percent	Freq.	Percent	Freq.	Percent	Freq.	Percent
18 or more	34	.8	90	2.3	95	2.7	133	4.0
15-17	1694	40.6	1608	40.8	1392	39.8	1447	43.9
12-14	1552	37.2	1535	39.0	1337	38.3	1145	34.7
9-11	509	12.2	402	10.2	407	11.6	344	10.4
6-8	203	4.9	160	4.1	145	4.1	112	3.4
3-5	96	2.3	76	1.9	61	1.7	41	1.2
1-2	10	.2	4	.1	7	.2	2	.1
0	71	1.7	64	1.6	51	1.5	73	2.2
TOTAL	4169	100.0	3939	100.0	3495	100.0	3297	100.0

^a. During the Fall 2014 semester, the mean hours earned was 12.77 ($\underline{SD} = 3.460$).

^b. For the Spring 2015 semester, the mean number of credit hours earned was 13.02 ($\underline{SD} = 3.330$).

^c. During the Fall 2015 semester, the mean number of credit hours earned was 13.03 ($\underline{SD} = 3.294$).

^d. During the Spring 2016 semester, the mean number of credit hours earned was 13.21 ($\underline{SD} = 3.438$).

Overall Grade Point Average (GPA) at the End of Their First Year

At the study institution, a grade point average (GPA) of 2.0 is required for graduation. Grades of “A,” “B,” and “C” are assigned for satisfactory work. A grade of “D” indicates minimally acceptable achievement for credit, and in some colleges, a grade of “D” in certain courses does not allow that credit to count to be applied to a degree. A grade of “F” is failing. An undergraduate student’s grade point average (GPA) is determined by the ratio of quality points earned to semester hours attempted and are assigned to letter grades using the following scale:

“A” = 4 quality points;

“B” = 3 quality points;

“C” = 2 quality points;

“D” = 1 quality point;

“F” = 0 quality points.

For students that did not live in a content-based residential college at a Research University-Very High Research (RU/VH) in the southern portion of the United States, the number of credit hours earned at the end of their first year of study was another measured variable. Of the 4,169 students who did not live in a content-based residential college in the Fall of 2014, the mean GPA was 2.92 ($\underline{SD} = .817$). The lowest GPA was 0.00 and highest GPA was 4.0. The most students fell within the 3.00-3.24 GPA category ($n = 608$). The frequency of occurrences can be found in Table 13.

Overall College Grade Point Average (GPA) at the End of Their Second Year

At the study institution, a grade point average (GPA) of 2.0 is required for graduation. During the Fall 2015 semester, plus/minus grading was introduced at the study institution. Letter grades of “A,” “B,” and “C” were assigned for satisfactory work. A grade of “D” indicated

minimally acceptable achievement for credit, and in some colleges, a grade of “D” in certain courses did not allow that credit to count to be applied to a degree. Letter grades A, B, C, and D had the suffix plus (+) or minus (-) to distinguish higher and lower performances within each of the letter grades. A grade of “F” was failing and did not include the plus (+) or minus (-) distinction. An undergraduate student’s grade point average (GPA) is determined by the ratio of quality points earned to semester hours attempted and are assigned to letter grades using the following scale:

“A+” = 4.3 quality points;

“A” = 4 quality points;

“A-” = 3.7 quality points;

“B+” = 3.3 quality points;

“B” = 3 quality points;

“B-” = 2.7 quality points;

“C+” = 2.3 quality points;

“C” = 2 quality points;

“C-” = 1.7 quality points;

“D+” = 1.3 quality points;

“D” = 1 quality point;

“D-” = 0.7 quality point;

“F” = 0 quality points.

For students that did not live in a content-based residential college at a research university-very high research (RU/VH) in the southern portion of the United States, the number of credit hours earned at the end of their second year of study was another measured variable. Of

the 4,169 students who did not live in a content-based residential college in the Fall of 2014, 3,561 were observed at the completion of the second year of study, meaning that 608 students did not have GPAs because they were not enrolled. The mean GPA was 3.04 (SD = .635). The lowest GPA was 0.00 and highest GPA was 4.164. The frequency of occurrences can be found in Table 13.

Table 13 Distribution of Overall Grade Point Averages (GPA) for Students That Did Not Live in a Content-Based Residential College at the End of Their First Year (2014-2015) and Second Year (2015-2016) of Study

Overall GPA Range	First Year ^a (2014-2015)		Second Year ^b (2015-2016)	
	Frequency	Percent	Frequency	Percent
4.00 and above	185	4.4	108	3.0
3.75 – 3.99	438	10.5	362	10.5
3.50 – 3.74	532	12.8	487	14.1
3.25 – 3.49	531	12.7	504	14.6
3.00 – 3.24	608	14.6	562	16.3
2.75—2.99	475	11.4	486	14.1
2.50—2.74	411	9.9	367	10.6
2.49—2.25	282	6.8	273	7.9
2.25—2.0	213	5.1	183	5.3
1.9—1.75	129	3.1	115	3.3
1.74 and below	365	8.8	114	3.3
Total	4,169	100.0	3561	100.0

^a For the first year (2014-2015) the mean GPA was 2.92 (SD = .817) and the range was 0.00—4.00.

^b In the second year of study, plus/minus grading was introduced. For the second year (2015-2016) the mean GPA was 3.04 (SD = .635) and the range was 0.00—4.164. There were 608 students who were not enrolled.

Whether or not the Student was a Resident of the State

Students were described on whether or not they were categorized as residents of the state in which the study institution was located. The majority ($n = 3617$, 86.80%) were residents of the state. Further, 552 students (13.20%) were nonresidents.

GPA Earned Each Semester

Students that did not live in a content-based residential college during their freshman year were described using the grade point average they earned each of their first four semesters.

Plus/minus grading was introduced in the Fall 2015 semester. Therefore, the possible GPAs for the first two semesters was 0.00 to 4.00 while the possible GPAs for the second two semesters was 0.00 to 4.30. For all of the four semesters, the mean GPAs of the students who did not live in a content-based residential college during their freshman year was between 2.85 and 2.95. (See Table 14).

Table 14 GPA Earned Each Semester for Students Not Living in a Content-Based Residential College at a Research University (RU/VH) in the Southern Region of the United States

GPA Earned Each Semester	Fall 2014 ^a		Spring 2015 ^b		Fall 2015 ^c		Spring 2016 ^d	
	Freq.	Percent	Freq.	Percent	Freq.	Percent	Freq.	Percent
4.00 and above	408	9.8	383	9.7	242	6.9	266	8.1
3.75 – 3.99	406	9.7	350	8.9	321	9.2	324	9.8
3.50 – 3.74	462	11.1	431	10.9	425	12.2	407	12.3
3.25 – 3.49	443	10.6	432	11.0	457	13.1	426	12.9
3.00 – 3.24	672	16.1	589	15.0	431	12.3	455	13.8
2.75—2.99	348	8.3	389	9.9	400	11.4	342	10.4
2.50—2.74	331	7.9	312	7.9	321	9.2	285	8.6
2.49—2.25	246	5.9	291	7.4	259	7.4	203	6.2
2.25—2.0	254	6.1	220	5.6	174	5.0	134	4.1
1.9—1.75	113	2.7	133	3.4	137	3.9	113	3.4
1.74 and below	486	11.7	409	10.4	328	9.4	342	10.4
Total	4169	100.0%	3939	100.0%	3495	100.0%	3297	100.0%

^a During the Fall 2014 semester, the mean GPA earned was 2.877 ($SD = .927$) and the range range was 0.00-4.00.

^b For the Spring 2015 semester, the mean GPA earned was 2.878 ($SD = .897$) and the range was 0.00-4.00. There were 230 missing cases.

^c During the Fall 2015 semester, the mean GPA earned was 2.922 ($SD = .862$) and the range was 0-4.30. There were 674 missing cases. Plus/minus grading was introduced in this semester.

^d During the Spring 2016 semester, the GPA earned was 2.943 ($SD = .908$) and the range was 0.00-4.300. There were 872 missing cases.

The highest mean GPA was achieved during the Spring 2016 semester ($\underline{M} = 2.943$, $\underline{SD} = .908$). When the GPAs were examined in categories, for the three semesters of study (Fall 2014, Spring 2015, Spring 2016) students most frequently earned GPAs in the 3.00-3.24. During the Fall 2015 semester, more students earned GPAs in the 3.25-3.49 range. The data is presented in Table 14.

Whether or not the Student is Retained in College in the Second Through Fifth Semester

Students who did not live in a content-based residential college were described by whether or not they were retained in each of their second through fifth semesters of study (Spring 2015-Fall 2016). The biggest decrease in retention was between the Spring 2015 (5.5% were not retained) and Fall 2015 semesters (16.2% were not retained). The data is presented in Table 15.

Table 15 Retention by Semester for Students Not Living in a Content-Based Residential College at a Research University-Very High Research (RU/VH) in the Southern Region of the United States

Was the student retained?	Spring 2015 ^a		Fall 2015 ^b		Spring 2016 ^c		Fall 2016 ^d	
	Freq.	Percent	Freq.	Percent	Freq.	Percent	Freq.	Percent
Yes	3939	94.5%	3495	83.8%	3297	79.1%	3044	73.0%
No	230	5.5%	674	16.2%	872	20.9%	1125	27.0%
TOTAL	4169	100.0%	4169	100.0%	4169	100.0%	4169	100.0%

^a Mean = .94 ($\underline{SD} = .228$)

^b Mean = .84 ($\underline{SD} = .368$)

^c Mean = .79 ($\underline{SD} = .407$)

^d Mean = .73 ($\underline{SD} = .444$)

Whether or not the Student is Retained in College in the Fifth Semester of College

Whether or not the student was retained in the fifth semester of college was another variable used to describe students that did not live in a content-based residential college in the Fall of 2014. Of the 4,169 students that did not live in a content-based residential college, 3,044 (73.0%) students were included in the 14th day enrollment count, indicating they were enrolled

during their fifth semester of study whereas 1,125 (27.0%) students were not included on the 14th day enrollment count, indicating they were no longer enrolled at the study institution.

Whether or not the Student is Retained in Their Chosen Curriculum

At the study institution, requests for curricula changes are not processed until the end of the semester, meaning that changes will not take effect until the beginning of the following semester. Therefore, for the students who began their program of study in the Fall 2014 term and chose to change curricula or programs of study, changes took place in the Spring 2015, Fall 2015, Spring 2016, and Fall 2016 semesters. During the Spring 2015 semester, 25.1% ($n = 1003$) of students who did not live in a content-based residential college changed curricula. The following semester, Fall 2015, 34.4% of students ($n = 1211$) changed curricula. In the Spring 2016 semester, 25.6% ($n = 850$) of students who did not live in a content-based residential college changed curricula and in the Fall 2016 semester, 20.8% of students ($n = 629$) changed curricula. This data is presented in Table 16.

Table 16 Number of Curricula Changes by Semester for Students Not Living in a Content-Based Residential College at a Research University-Very High Research (RU/VH) in the Southern Region of the United States

Did the student change curricula?	Spring 2015 ^a		Fall 2015 ^b		Spring 2016 ^c		Fall 2016 ^d	
	Freq.	Percent	Freq.	Percent	Freq.	Percent	Freq.	Percent
Yes	1003	25.1	1211	34.4	850	25.6	629	20.8
No	2999	74.9	2312	65.6	2467	74.4	2394	79.2
TOTAL	4002	100.0	3523	100.0	3317	100.0	3023	100.0

Note. Mean number of curriculum changes = .83, SD = .930. Range: 0-4.

^a During the Spring 2015 semester, there were 167 missing cases.

^b For the Fall 2015 semester, there were 646 missing cases.

^c During the Spring 2016 semester, there were 852 missing cases.

^d During the Fall 2016 semester, there were 1146 missing cases.

Objective Three Results

The third objective of this study was to compare incoming college freshmen who lived in a content-based residential college with those who did not live in a content-based residential college, on the following selected measures:

- a. Credit hours the student earned each semester of their first four semesters (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);
- b. Overall grade point average (GPA) at the end of their first year (2014-2015);
- c. Overall college grade point average (GPA) at the end of their second year (2015-2016);
- d. Whether or not the student was a resident of the state;
- e. The semester GPA achieved in each of the student's first four semesters of college enrollment (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);
- f. Whether or not the student was retained in the university in each of their second through fifth semesters of study;
- g. Whether or not the student changed their curricula in their second through fifth semester of study; and
- h. The number of times the student changed curricula in their second through fifth semester of study.

The findings for this objective were achieved by analyzing the data with the independent t test procedure and the chi-square test of independence. For the variables measured on a categorical scale, the researcher used the chi-square test of independence to determine if each of the variables were independent of the variable, whether or not students lived in a content-based

residential hall. Using an a priori significance level of .05, five of the variables were not independent of the variable, whether or not students lived in a content-based residential college. These five variables were: (1) Whether or not the student was a resident of the state; (2) Whether or not the student was retained in the Fall 2016 semester; (3) Whether or not the student was retained in the Spring 2016 semester; (4) Whether or not the student changed curricula in the Fall 2015 semester; and (5) Whether or not the student changed curricula in the Spring 2015 semester. The results of the chi-square test of independence for the other variables, Spring 2015 retention and Fall 2016 curricula change, were not significant, indicating that these variables were independent of the variable, whether or not students lived in a content-based residential college. (See Table 17).

Table 17 Independence of Selected Demographics Characteristics from Whether or Not Students at a Research University-Very High Research (RU/VH) Resided in a Content-Based Residential College During Their Freshman Year

Variable	df	χ^2	p
Whether or not the student was a resident of the state	1	84.354	< .001
Fall 2016 Retention	1	12.662	< .001
Spring 2016 Retention	1	8.619	.003
Fall 2015 Curricula Change	1	7.603	.006
Spring 2015 Curricula Change	1	6.758	.009
Fall 2015 Retention	1	6.366	.012
Spring 2016 Curricula Change	1	5.394	.020
Spring 2015 Retention	1	3.109	.078
Fall 2016 Curricula Change	1	1.054	.305

Whether or Not the Student was a Resident of the State

When the variable, whether or not the student was a resident of the state in which the study institution was located, was tested for independence from the variable, whether or not the student participated in a content-based residential college during her or his freshman year, a statistically significant chi-square result ($\chi^2_{(1)} = 27.094$, $p = .000$) was yielded. This means that

the variables were not independent. The nature of the association between the variables was such that a higher percentage of students that participated in a content-based residential college during their freshman year were not residents of the state (23.7%) in which the study institution was located than those that did not participate in a content-based residential college (13.2%). This data is presented in Table 18.

Table 18 Comparison of Whether or Not the Student Was a Resident of the State in Which the Study Institution was Located by Whether or Not Students at a Research University-Very High Research (RU/VH) Resided in a Content-Based Residential College During Their Freshman Year

Student Was a Resident of the State	Residential College		Total
	No $\frac{n}{\%}$	Yes $\frac{n}{\%}$	
No	552 13.2%	325 23.7%	877 15.8%
Yes	3617 86.8%	1048 76.3%	4665 84.2%

Note. $\chi^2_{(1)} = 84.434$, $p < .001$

Whether or Not the Student Was Retained in Fall 2016

When the variable, whether or not the student was retained in the Fall 2016 semester, was tested for independence from the variable, whether or not the student participated in a content-based residential college during her or his freshman year, a statistically significant chi-square result ($\chi^2_{(1)} = 12.662$, $p = .000$) was yielded. This means that the variables were not independent. The nature of the association between the variables was such that a higher percentage of students that participated in a content-based residential college during their freshman year were retained from the fourth to fifth semester (77.9%) than those that did not participate in a content-based residential college during their freshman year (73.0%). This data is presented in Table 19.

Table 19 Comparison of Fall 2016 Retention by Whether or Not Students at a Research University-Very High Research (RU/VH) Resided in a Content-Based Residential College During Their Freshman Year

Student Retained in Fall 2016	Residential College		Total
	No <u>n</u> %	Yes <u>n</u> %	
No	1125 27.0%	304 22.1%	1429 25.8%
Yes	3044 73.0%	1069 77.9%	4113 74.2%

Note. $\chi^2_{(1)} = 12.662$, $p < .001$

Whether or Not the Student was Retained in Spring 2016

When the variable, whether or not the student was retained in the Spring 2016 semester, was tested for independence from the variable, whether or not the student participated in a content-based residential college during her or his freshman year, a statistically significant chi-square result ($\chi^2_{(1)} = 8.619$, $p = .003$) was yielded. This means that the variables were not independent. The nature of the association of the variables was such that a higher percentage of students that participated in a content-based residential college during their freshman year were retained from their third to fourth semester (82.7%) than those that did not participate in a content-based residential college during their freshman year (79.1%). This data is presented in Table 20.

Table 20 Comparison of Spring 2016 Retention by Whether or Not Students at a Research University-Very High Research (RU/VH) Resided in a Content-Based Residential College During Their Freshman Year

Student Retained in Spring 2016	Residential College		Total
	No <u>n</u> %	Yes <u>n</u> %	
No	872 20.9%	237 17.3%	1109 20.0%
Yes	3297 79.1%	1136 82.7%	4433 80.0%

Note. $\chi^2_{(1)} = 8.619$, $p = .003$

Whether or Not the Student Changed Curricula in Fall 2015

When the variable, whether or not the student changed curricula in the Fall 2015 semester, was tested for independence from the variable, whether or not the student participated in a content-based residential college during her or his freshman year, a statistically significant chi-square result ($\chi^2_{(1)} = 7.603$, $p = .006$) was yielded. This means that the variables were not independent. The nature of the association between the variables was such that a higher percentage of students that did not participate in a content-based residential college (31.6%) changed their curricula than those that did live in a content-based residential college (27.2%). This data is presented in Table 21.

Table 21 Comparison of Whether or Not Student Changed Curricula in Fall 2015 by Whether or Not Students at a Research University-Very High Research (RU/VH) Resided in a Content-Based Residential College During Their Freshman Year

Student Changed Curricula in Fall 2015	Residential College		Total
	No $\frac{n}{\%}$	Yes $\frac{n}{\%}$	
No	2255 68.4%	837 72.8%	3092 69.9%
Yes	1040 31.6%	313 27.2%	1353 30.4%

Note. $\chi^2_{(1)} = 7.603$, $p = .006$

Whether or Not the Student Changed Curricula in Spring 2015

When the variable, whether or not the student changed curricula in the Spring 2015 semester, was tested for independence from the variable, whether or not the student participated in a content-based residential college during her or his freshman year, a statistically significant chi-square result ($\chi^2_{(1)} = 6.7584$, $p = .009$) was yielded. This means that the variables were not independent. The nature of the association between the variables was such that a higher percentage of students that did not participate in a content-based residential college changed their

curricula (25.2%) than those that did participate in a content-based residential college (21.7%).

This data is presented in Table 22.

Table 22 Comparison of Whether or Not Student Changed Curricula in Spring 2015 by Whether or Not Students at a Research University-Very High Research (RU/VH) Resided in a Content-Based Residential College During Their Freshman Year

Student Changed Curricula in Spring 2016	Residential College		Total
	No <u>n</u> %	Yes <u>n</u> %	
No	2804 78.9%	1024 82.3%	3828 79.8%
Yes	751 21.1%	220 17.7%	971 20.2%

Note. $\chi^2_{(1)} = 6.758$, $p = .009$

Whether or Not the Student Was Retained in Fall 2015

When the variable, whether or not the student was retained in the Fall 2015 semester, was tested for independence from the variable, whether or not the student participated in a content-based residential college during her or his freshman year, a statistically significant chi-square result was yielded ($\chi^2_{(1)} = 6.336$, $p = .012$). This means that the variables were not independent. The nature of the association of the variables was such that a higher percentage of students that participated in a content-based residential college during their freshman year were retained from the second to third semester (86.7%) than those that did not participate in a content-based residential college during their freshman year (83.8%). This data is presented in Table 23.

Table 23 Comparison of Fall 2015 Retention by Whether or Not Students at a Research University-Very High Research (RU/VH) Resided in a Content-Based Residential College During Their Freshman Year

Student Retained in Fall 2015	Residential College		Total
	No <u>n</u> %	Yes <u>n</u> %	
No	674 16.2%	183 13.3%	857 15.5%
Yes	3495 83.8%	1190 86.7%	4685 84.5%

Note. $\chi^2_{(1)} = 6.336$, $p = .012$

Whether or Not the Student Changed Curricula in Spring 2016

When the variable, whether or not the student changed curricula in the Spring 2016 semester, was tested for independence from the variable, whether or not the student participated in a content-based residential college during her or his freshman year, a statistically significant chi-square result ($\chi^2_{(1)} = 5.394$, $p = .020$) was yielded. This means that the variables were not independent. The nature of the association between the variables was such that a higher percentage of students that did not participate in a content-based residential college changed their curricula (25.2%) than those that did participate in a content-based residential college (21.7%). (See Table 24).

Table 24 Comparison of Whether or Not Student Changed Curricula in Spring 2016 by Whether or Not Students at a Research University-Very High Research (RU/VH) Resided in a Content-Based Residential College During Their Freshman Year

Student Changed Curricula in Spring 2016	Residential College		Total
	No $\frac{n}{\%}$	Yes $\frac{n}{\%}$	
No	2413 74.8%	879 78.3%	3292 75.7%
Yes	812 25.2%	244 21.7%	1056 24.3%

Note. $\chi^2_{(1)} = 7.603$, $p = .006$

To accomplish this objective for variables that were measured on an interval scale of measurement, the independent t test procedure was used to determine if a difference existed between the group of students who did live in a content-based residential college versus the group of students who did not live in a content-based residential college. Using an a priori significance level of .05, significant differences were found in the following variables: (1) GPA earned in the second semester of study (Spring 2015); (2) GPA earned in the third semester of study (Fall 2015); and (3) GPA earned in the fourth semester of study (Spring 2016).

The remaining variable, GPA achieved during the first semester of study, indicating that it is independent of the variable, whether or not the student was enrolled in a content-based residential college.

The Grade Point Averages (GPA) Achieved in Each Semester and Year of Enrollment

The independent samples t test procedure was used to determine if a difference existed in the Grade Point Averages (GPA) earned each semester and at the end of each year by students who lived in content-based residential colleges and students who did not live in content-based residential colleges. Using an a priori significance level of .05, significant differences were found in three of the four semesters of enrollment. The first semester of study, Fall 2014, and the end of year GPA for the first year (2014-2015) did not yield a statistically significant result, indicating that these two groups of students were not found to be significantly different when examined on their GPA earned during their first semester and first year of study. The remaining semesters, Fall 2015, Spring 2016, and Spring 2015 resulted in statistically significant findings. The 2015-2016 end of year GPA variable also yielded statistically significant findings. The nature of the difference was such that for all semesters/years where a difference was found, the students who did not participate in a content-based residential college had a higher GPA. See Table 25.

Number of Changes in Curricula

The independent samples t test procedure was used to determine if a difference existed in the number of times students changed curricula for students who lived in content-based residential colleges and students who did not live in content-based residential colleges. Using an a priori significance level of .05, the variable, number of changes in curricula, resulted in a statistically significant finding. Students who lived in a content-based residential college changed

curricula fewer times ($\underline{M} = .75$) than their peers who did not live in a content-based residential college ($\underline{M} = .83$). The data is presented in Table 25.

College Entrance Examination (ACT/SAT) Composite Scores

The independent samples t test procedure was used to determine if a difference existed in the composite ACT score for students who lived in content-based residential colleges and students who did not live in content-based residential colleges. Using an a priori significance level of .05, the variable, ACT score, resulted in a statistically significant finding. Students who lived in a content-based residential college had higher ACT scores ($\underline{M} = 25.96$) than their peers who did not live in a content-based residential college ($\underline{M} = 25.56$). The data is presented in Table 25.

High School GPA

The independent samples t test procedure was used to determine if a difference existed in the high school GPA students reported at the time of application to the study institution for students who lived in content-based residential colleges and students who did not live in content-based residential colleges. Using an a priori significance level of .05, the variable, high school GPA, resulted in a statistically significant finding. Students who lived in a content-based residential college had a lower mean GPA ($\underline{M} = 3.409$) than their peers who did not live in a content-based residential college ($\underline{M} = 3.436$). The data is presented in Table 25.

Number of Credit Hours Earned Each Semester

The independent samples t test procedure was also used to determine if a difference existed in the number of credit hours earned each semester by students who lived in content-based residential colleges and students who did not live in content-based residential colleges. Using an a priori significance level of .05, no significant differences were found in each of the

four semesters of enrollment. The data pertaining to GPA and number of credit hours earned is presented in Table 25.

Table 25 Comparison of Semester and Annual GPAs and Number of Credit Hours Earned by Whether or Not Students at a Research University-Very High Research (RU/VH) Resided in a Content-Based Residential College During Their Freshman Year

Variable	Residential College <u>n</u> <u>m</u> <u>SD</u>	Non-Residential College <u>n</u> <u>m</u> <u>SD</u>	<u>t</u>	<u>Sig.</u>
ACT Score	1373 25.96	4169 25.56	3.807	< .001
2015-2016 End of Year GPA	1211 2.969 .607	3561 3.041 .635	3.472	< .001
Fall 2015 GPA	1190 2.838 .827	3495 2.922 .862	2.932	.003
Spring 2016 GPA	1136 2.860 .851	3297 2.943 .908	2.707	.007
Number of Changes in Curricula	1304 .75 .875	3875 .83 .930	2.671	.008
Spring 2015 GPA	1314 2.816 .861	3939 2.880 .897	2.252	.024
High School GPA	1373 3.409	4169 3.436	2.147	.032
2014-2015 End of Year GPA	1373 2.894 .769	4169 2.926 .817	1.261	.207
Fall 2014 Earned Hours	1373 12.90 3.462	4169 12.77 3.460	1.189	.234
Spring 2015 Earned Hours	1314 13.11 3.352	3939 13.02 3.330	.792	.428
Fall 2014 GPA	1373 2.856 .890	4169 2.877 .927	.729	.466

(Table 25 continued)

(Table 25 continued)

Variable	Residential College <u>n</u> <u>m</u> <u>SD</u>	Non-Residential College <u>n</u> <u>m</u> <u>SD</u>	t	<u>Sig.</u>
Fall 2015 Earned Hours	1190 12.99 3.188	3495 13.03 3.294	.360	.719
Spring 2016 Earned Hours	1136 13.24 3.265	3297 13.21 3.438	.218	.828

Objective Four Results

The fourth objective of the study was to determine if a relationship exists between the following selected variables and second-to-third year (fifth semester) student retention:

- a. Gender;
- b. Race;
- c. High school grade point average (GPA);
- d. College entrance examination (ACT/SAT) composite scores;
- e. Credit hours the student earned each semester of their first four semesters (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);
- f. Overall grade point average (GPA) at the end of their first year (2014 2015);
- g. Overall college grade point average (GPA) at the end of their second year (2015-2016);
- h. Whether or not the student was a resident of the state;
- i. The semester GPA achieved in each of the student's first four semesters of college enrollment (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);
- j. Whether or not the student changed their curricula in their second through

fifth semester of study; and

k. Type of freshman housing (content-based residential college or not in a content-based residential college).

The findings for this objective were achieved by analyzing the data with the chi-square test of independence and Pearson's Product Moment Coefficient. Variables that were measured as categorical data were analyzed using the chi-square test of independence and those that were continuous data were analyzed using the Pearson Product Moment Correlation Coefficient. The variables that were continuous included high school grade point average, college entrance examination (ACT) composite scores, credit hours earned in each of the first four semesters of enrollment, and the semester GPA earned in each of the first four semesters of enrollment. Davis' Descriptors (1971) were used to describe the relationships between the variables. All of the 12 relationships examined were found to be statistically significant. Of the 12 examined relationships, seven were classified as having a moderate association and five were classified as having a low association (Davis, 1971). The variable that was found to have the highest relationship with whether or not the student was retained in the fifth semester of study was the 2014-2015 End-of-year GPA ($r = .454$, $p < .001$) which was classified as a moderate association.

The Fall 2014 semester GPA ($r = .431$, $p < .001$) and Spring 2015 semester GPA ($r = .402$, $p < .001$) also yielded high correlations which were also classified as moderate associations. Other variables that had a moderate association included the Spring 2015 semester GPA ($r = .402$, $p < .001$) Fall 2014 earned hours ($r = .386$, $p < .001$), Spring 2015 earned hours ($r = .366$, $p < .001$), 2015-2016 end-of-year GPA ($r = .348$, $p < .001$), and Fall 2015 semester GPA ($r = .300$, $p < .001$). This data is presented in Table 26.

Table 26 Relationship Between Whether or Not Student was Retained in the Fifth Semester and Selected Personal and Academic Characteristics Resided in a Content-Based Residential College During Their Freshman Year

Scale/Subscale	r ^a	n	p	Descriptor ^b
2014-2015 End GPA	.454	5542	< .001	Moderate Association
Fall 2014 Semester GPA	.431	5542	< .001	Moderate Association
Spring 2015 Semester GPA	.402	5253	< .001	Moderate Association
Fall 2014 Earned Hours	.386	5542	< .001	Moderate Association
Spring 2015 Earned Hours	.366	5253	< .001	Moderate Association
2015-2016 End GPA	.348	4772	< .001	Moderate Association
Fall 2015 Semester GPA	.300	4685	< .001	Moderate Association
Fall 2015 Earned Hours	.295	4685	< .001	Low Association
Spring 2016 Semester GPA	.290	4433	< .001	Low Association
Spring 2016 Earned Hours	.277	4433	< .001	Low Association
High School GPA	.175	5542	< .001	Low Association
ACT Score	.139	5541	< .001	Low Association

^a. Pearson's Product Moment Correlation.

^b. Davis' Descriptors (1971): .00 to .09 = Negligible Association, .10 to .29 = Low Association, .30 to .49 = Moderate Association, .50 to .69 = Substantial Association, and .70 or higher = Very Strong Association

The remaining variables were measured on a categorical scale: (1) gender, (2) race; and (3) whether or not the student was a resident of the state in which the study institution was located. To analyze these variables, the researcher used the chi-square test of independence to determine if each of the variables were independent of the variable, whether or not students were retained from the second to third year, or fifth semester, of study. Using an a priori significance level of .05, the variable, whether or not the student was a resident of the state in which the study institution was located, was not independent of the variable, whether or not students were retained from the second to third year of study. This yielded a statistically significant finding ($\chi^2_{(1)} = 27.094$, $p < .001$). The variable, race, also produced a statistically significant finding ($\chi^2_{(1)} = 33.528$, $p < .001$). However, the variable, gender, was independent ($\chi^2_{(1)} = .033$, $p = .855$) of the variable, whether or not the student would be retained in the fifth semester of study.

Whether or Not the Student Was a Resident of the State

When the variable, whether or not the student was a resident of the state in which the study institution was located, was tested for independence from the variable, whether or not the student was retained in the fifth semester of study, a statistically significant chi-square result ($\chi^2_{(1)} = 27.094$, $p < .001$) was yielded. This means that the variables were not independent. The nature of the association between the variables was such that a higher percentage of students who were residents of the state in which the study institution was located were retained (75.5%) than those who were not residents of the state in which the study institution was located (67.2%). This data is presented in Table 27.

Table 27 Comparison of Whether or Not the Student Was a Resident of the State in Which the Study Institution was Located by Whether or Not Students at a Research University-Very High Research (RU/VH) Were Retained in the Fifth Semester of Study

Student Was Retained in the Fifth Semester	Resident of the State in Which Study Institution Was Located		Total
	No $\frac{n}{\%}$	Yes $\frac{n}{\%}$	
No	288 32.8%	1111 24.5%	1429 25.8%
Yes	589 67.2%	3524 75.5%	4113 74.2%

Note. $\chi^2_{(1)} = 27.094$, $p < .001$

Gender

When the variable, gender, was tested for independence from the variable, whether or not the student was retained in the fifth semester of study, a statistically significant chi-square result ($\chi^2_{(1)} = .033$, $p = .855$) was not found. This means that the variables were independent, meaning that gender did not serve as a predictor of retention in the fifth semester of study. This data is presented in Table 28.

Table 28 Comparison of Gender by Whether or Not Students at a Research University-Very High Research (RU/VH) Were Retained in the Fifth Semester of Study

Student Was Retained in the Fifth Semester	Gender		Total
	Female $\frac{n}{\%}$	Male $\frac{n}{\%}$	
No	768 25.7%	661 25.9%	1429 25.8%
Yes	2222 74.3%	1891 74.1%	4113 74.2%

Note. $\chi^2_{(1)} = .033$, $p = .855$

Race

To examine the impact of race on whether or not the student was retained in the fifth semester, two of the race categories had insufficient numbers to be included in the analysis. These categories were American Indian or Alaskan Native and Native Hawaiian or other Pacific Islander and they were eliminated from the chi-square test analysis. When the variable, race, was tested for independence from the variable, whether or not the student was retained in the fifth semester of study, a statistically significant chi-square result ($\chi^2_{(1)} = 33.528$, $p < .001$) was found. This means that the variables were not independent. The nature of the association between the variables was such that a higher percentage of students who identified as Asian were retained (78.4%) as compared with the overall percentage (74.3%). The group of students who identified as Black (65.7%) deviated most from the overall percentage (74.3%). A higher percentage of students who identified as Black tended not to be retained in the fifth semester, whereas a higher percentage of students who identified as Asian tended to be retained. Data is presented in Table 29.

Table 29 Comparison of Race by Whether or Not Students at a Research University-Very High Research (RU/VH) Were Retained in the Fifth Semester of Study

Student Was Retained in the Fifth Semester	Race					Total
	Asian $\frac{n}{\%}$	Black $\frac{n}{\%}$	Hispanic $\frac{n}{\%}$	Multi-Racial $\frac{n}{\%}$	White $\frac{n}{\%}$	
No	53 21.6%	234 34.3%	101 27.9%	38 24.5%	989 24.3%	1415 25.7%
Yes	192 78.4%	448 65.7%	261 72.1%	117 75.5%	3073 75.7%	4091 74.3%
Total	245 100.0%	682 100.0%	362 100.0%	155 100.0%	4062 100.0%	5506 100.0%

Note. $\chi^2_{(1)} = 33.528$, $p < .001$. There were 36 missing cases.

Number of Times Student Changed Curricula by Semester

The variable, number of times the student changed curricula each semester, was tested for independence from the variable, whether or not the student was retained in the fifth semester of study, a statistically significant chi-square result was yielded for the Spring 2015 ($\chi^2_{(1)} = 11.011$, $p < .001$), Fall 2015 ($\chi^2_{(1)} = 15.3231$, $p < .001$), and Spring 2016 ($\chi^2_{(1)} = 8.118$, $p = .004$) semesters. This means that the variables were not independent. The nature of the association between the variables was such that a higher percentage of students who did not change curricula were retained than those who did change curricula. A statistically significant result was not yielded for the Fall 2016 semester ($\chi^2_{(1)} = .279$, $p = .597$). This data is presented in Tables 30-32.

Table 30 Comparison of Spring 2015 Changes in Curricula by Whether or Not Students at a Research University-Very High Research (RU/VH) Were Retained in the Fifth Semester of Study

Student Was Retained in the Fifth Semester	Spring 2015 Curricula Change		Total
	Not Changed $\frac{n}{\%}$	Changed $\frac{n}{\%}$	
No	808 21.1%	253 26.1%	1061 22.1%
Yes	3020 78.9%	718 73.9%	3738 77.9%

Note. $\chi^2_{(1)} = 11.011$, $p < .001$

Table 31 Comparison of Fall 2015 Changes in Curricula by Whether or Not Students at a Research University-Very High Research (RU/VH) Were Retained in the Fifth Semester of Study

Student Was Retained in the Fifth Semester	Fall 2015 Curricula Change		Total
	Not Changed $\frac{n}{\%}$	Changed $\frac{n}{\%}$	
No	377 12.2%	224 16.6%	601 13.5%
Yes	2715 87.8%	1129 83.4%	3844 86.5%

Note. $\chi^2_{(1)} = 15.3231$, $p < .001$

Table 32 Comparison of Spring 2016 Changes in Curricula by Whether or Not Students at a Research University-Very High Research (RU/VH) Were Retained in the Fifth Semester of Study

Student Was Retained in the Fifth Semester	Spring 2016 Curricula Change		Total
	Not Changed $\frac{n}{\%}$	Changed $\frac{n}{\%}$	
No	292 8.9%	125 11.8%	417 9.6%
Yes	3000 91.1%	931 88.2%	3931 90.4%

Note. $\chi^2_{(1)} = 8.118$, $p = .004$

Objective Five Results

The fifth objective of this study was to determine if a model existed that significantly increased the researcher's ability to correctly classify students on their retention from the second to third year, or fifth semester, of study among undergraduate students at a research university-very high research (RU/VH) in the Southern region of the United States from the following measures:

- a. Type of freshman housing (content-based residential college or elsewhere);
- b. Gender;
- c. Race;
- d. High school grade point average (GPA);
- e. College entrance examination (ACT/SAT) composite scores;
- f. Credit hours the student earned during their first semester of enrollment (Fall 2014);
- g. The semester GPA achieved in the first semester of college enrollment (Fall 2014); and
- h. Whether or not the student was a resident of the state.

To accomplish this objective, the multiple discriminant analysis statistical technique was used. The multiple discriminant analysis procedure requires that all independent variables entered into the model must be on a continuous scale of measurement (interval or ratio) or must be coded as a dichotomous variable and requires the dependent variable to be measured on a categorical scale. The dependent variable of this study was whether or not the student remained enrolled in the research institution in the beginning of the third year, or fifth semester of study. The independent variables for the study were entered into the model as either continuous variables or as binary-coded (dichotomous) variables. The independent variables in this category were coded for the analysis as outlined below:

- a. Type of freshman housing (content-based residential college or not in a content based residential college): This was coded as follows: If the student resided in a content-based residential college, it will be coded as 1, if the student did not reside in a content-based residential college, it was coded as 0.

- b. Gender: This was coded as female = 0; male = 1.

- c. Race: Each of the racial variables were coded as a binary variable and

each subject was categorized by either possessing the trait or not possessing the trait. For example, a variable was created for the Caucasian race in which the subjects were classified as either possessing the trait of being Caucasian, coded as 1, or not possessing the trait of Caucasian, coded as 0. This was repeated for each of the other racial categories. The race categories of American Indian or Alaskan Native and Native Hawaiian or other Pacific Islander were not included in this analysis due to insufficient numbers.

- d. High school grade point average (GPA): This was measured as a continuous variable.
- e. College entrance examination (ACT/SAT) composite scores: This was measured as a continuous variable.
- f. Credit hours the student earned in the first semester: This was measured as a continuous variable.
- g. The semester GPA achieved in the first semester of college enrollment: This was measured as a continuous variable.
- h. Whether or not the student is retained in the fifth semester of college: If the student was retained in college in the fifth semester of college, it was coded as 1, and if the student was not retained, it was coded as 0; and
- i. Whether or not the student was a resident of the state in which the study institution was located: If the student was a resident of the state in which the study institution was located, it was coded as 1 and if the student was not a resident of the state in which the study institution was located, it was coded as 0.

Step One of Discriminant Analysis

The first step in conducting the discriminant analysis was to examine the independent variables that were to be included in the analysis for the existence of multicollinearity.

Multicollinearity occurs when there are high correlations between predictor variables. No excess multicollinearity was found in the data.

Step Two of Discriminant Analysis

The second step in conducting the discriminant analysis was to compare the two groups of students: those that were retained in the fifth semester of college versus those that were not retained in the fifth semester of college. This was accomplished by comparing the means of each independent variable by category of the dependent variable, whether or not the student was retained in the fifth semester of college.

Using an a priori significance level of .05, eight of the independent variables had statistically significant group means. Among the eight variables for which statistically significant group means were identified, seven variables were found to have higher means for the students that were retained versus the students that were not retained. These seven variables include: (1) Fall 2014 GPA; (2) Fall 2014 earned hours; (3) High School GPA; (4) ACT score; (5) Whether or not the student was a resident of the state in which the study institution was located; (6) Race—White; and (7) Whether or not the student lived in a content-based residential college. The one remaining variable that yielded a statistically significant result but did not result in higher group means for students that were retained were: (1) Race—Black. The means of the groups for the remaining variables did not show a statistically significant difference. The means and standard deviations, including F-ratio values and probability values are listed in Table 33.

Table 33 Comparison of Discriminating Values, Variable Means, Standard Deviations, and F-ratios in the Derived Exploratory Discriminant Model by Retention Status for Students Who Attended a Research University-Very High Research (RU/VH) in the Southern Region of the United States

Discriminating Variable	Group Not Retained N = 1425 M SD	Group Retained N = 4102 M SD	F-ratio	df1	df2	p
Fall 2014 GPA	2.199 1.117	3.105 .700	1262.393	1	5525	< .001
Fall 2014 Earned Hours	10.535 4.501	13.585 2.587	965.380	1	5525	< .001
High School GPA	3.311 .407	3.471 .391	172.043	1	5525	< .001
ACT Score	24.849 3.320	25.939 3.464	106.921	1	5525	< .001
Race—Black	.164 .371	.109 .312	29.270	1	5525	< .001
Resident of the State	.800 .400	.857 .350	26.376	1	5525	< .001
Race—White	.694 .461	.749 .434	16.379	1	5525	< .001
Whether or Not the Student Lived in a Residential College	.212 .409	.261 .439	13.462	1	5525	< .001
Race—Asian	.032 .189	.047 .211	2.307	1	5525	.129
Race—Hispanic	.071 .257	.064 .244	.908	1	5525	.341
Race—Multi-Racial	.027 .161	.029 .166	.134	1	5525	.715
Gender	1.463 .499	1.460 .498	.042	1	5525	.838

Step Three of Discriminant Analysis

In the third step of the discriminant analysis, the researcher examined the computed standardized canonical discriminant function coefficients. The centroids for the groups were determined to be -.856 for the students that were not retained and .297 for the students that were retained in the fifth semester of enrollment. A total of five independent variables entered the

discriminant model yielding an overall canonical correlation of $R_c = .451$. These five variables were:

1. The number of hours earned in the Fall 2014 semester;
2. The GPA earned in the Fall 2014 semester;
3. Whether or not the student lived in the state in which the study institution was located;
4. Whether or not the student lived in a content-based residential college in the Fall 2014 semester; and
5. Gender.

The variable that entered the discriminant model first and had the strongest effect on the dependent variable, whether or not the student was retained in the fifth semester, was the number of hours earned in the Fall 2014 semester. This variable had the highest standardized discriminant function coefficient ($\beta = .814$). The nature of the influence of the number of credits hours earned in the Fall 2014 semester on whether or not the student was retained in the fifth semester (the dependent variable) was such that having a higher quantity of hours earned in the first semester of enrollment (Fall 2014) increased the likelihood of being retained to the fifth semester of study.

The variable that entered the discriminant model second was the GPA achieved in the first semester of study (Fall 2014). The standardized canonical discriminant function coefficient was $\beta = .806$ and the nature of the influence on whether or not the student was retained in the fifth semester of study was such that having a higher GPA increased the likelihood that the student was retained to the fifth semester of study.

The variable that entered the discriminant model third was the whether or not the student was a resident of the state in which the study institution was located. The standardized canonical discriminant function coefficient was $\beta = .803$ and the nature of the influence on whether or not the student was retained in the fifth semester of study was such that being a resident of the state in which the study institution was located increased the likelihood that the student was retained to the fifth semester of study.

The variable that entered the discriminant model fourth was whether or not the student lived in a content-based residential college. The standardized canonical discriminant function coefficient was $\beta = .799$ and the nature of the influence on whether or not the student was retained in the fifth semester of study was such that participating in a content-based residential college increased the likelihood that the student was retained to the fifth semester of study.

The variable that entered the discriminant model fifth was gender. The standardized canonical discriminant function coefficient was $\beta = .797$ and the nature of the influence on whether or not the student was retained in the fifth semester of study was such that being male increased the likelihood that the student was retained to the fifth semester of study.

In addition to examining the standardized discriminant function coefficients, the researcher also examined the within-group structure coefficients. The structure correlations provide the consumer of the research with a bivariate measure of the relationship between each of the independent variables and discriminant score computed for each subject from the variables that entered the significant discriminant model. A substantively significant structure correlation is considered to be any coefficient that is half or greater than the magnitude of the highest structure correlation. Therefore, any structure correlation of .474 (half the value of .947, which

was the highest structure correlation in this study) or higher was considered substantively meaningful in this analysis.

There were two independent variables that were found to have structure correlations that met this criterion. They were:

1. GPA earned in the first semester of enrollment (Fall 2014); and
2. The number of credit hours earned in the Fall 2014 semester.

Three of the five independent variables that entered the discriminant model were found to have structure coefficients that did not meet the criterion for substantive significance. These variables included: Ten of the eleven independent variables that were found to have structure correlations did not enter the discriminant model. These three variables were: (1) Whether or not the student was a resident of the state in which the study institution was located ($s = .137$); (2) Whether or not the student lived in a content-based residential college ($s = .098$); and (3) Gender ($s = -.005$). The data in Table 34 is a summary of the data for the discriminant analysis of the derived model.

Table 34 Summary Data for Stepwise Multiple Discriminant Analysis of the Exploratory Model for Retention Status of Students at a Research University-Very High Research (RU/VH) University in the Southern Region of the United States

Discriminating Variables	β^a	s^b	<u>Discriminant Functions</u>	
			Group	Centroids
Fall 2014 GPA	.747	.947	Not Retained	-.856
Fall 2014 Earned Hours	.311	.828	Retained	.297
Whether or not the student was a resident of the state	.169	.137		
Whether or not the student lived in a content-based residential college	.130	.098		
Gender	.115	-.005		
High School GPA	^c	.383		
ACT score	^c	.259		
Race—Black	^c	-.164		

(Table 34 continued)

(Table 34 continued)

Discriminating Variables	β^a	s^b	<u>Discriminant Functions</u>	
			Group	Centroids
Race—White	^c	.139		
Race—Asian	^c	.030		
Race—Hispanic	^c	-.027		
Race—Multi-Racial	^c	-.026		
Eigenvalue .255	Rc ^c .451	Wilk's Lambda .797	p < .001	

Note. $N = 5527$

^a. β = standardized discriminant function coefficient

^b. s = within group structure coefficient

^c Did not enter the discriminant model as a significant predictor

^e. Rc = canonical correlation coefficient

Step Four of Discriminant Analysis

For the last step of the discriminant analysis, the researcher examined the correctly classified cases. As shown in Table 35, the model correctly classified 73.4% of original grouped cases. The Tau statistic is used to determine the substantive significance of the percent of correctly classified cases. The rule of thumb is that to be meaningful, the model should show a 25% improvement over chance. For a two category dependent variable, this would be 62.5% of cases correctly classified. Since the measure in this analysis is 73.4% the derived model yields both a statistically and substantively significant model.

Table 35 Retention Status of Students Who Entered a Research University-Very High Research (RU/VH) in the Southern Region of the United States

	<u>Predicted Group</u> $\frac{n}{\%}$	<u>Actual Group</u>	
		Not Retained $\frac{n}{\%}$	Retained $\frac{n}{\%}$
Not Retained		837 58.6%	884 21.5%
Retained		592 41.4%	3229 78.5%
Total		1429 100%	4113 100%

Note. Percent of cases correctly classified: 73.4%; $n = 5527$

CHAPTER 5: SUMMARY

Summary of Purpose and Objectives

The primary purpose of this study was to determine the influence of participation in a content-based residential college and selected academic and personal demographic characteristics on the second-to-third year retention of traditional-age, first-time freshman students at a research university-very high (RU/VH) in the Southern region of the United States. The dependent variable of the study was whether or not the traditional-age, first-time freshman students remained enrolled at the study institution at the beginning of the fifth semester, or second to third year, of study.

The following specific objectives were formulated to guide this research:

1. The first objective of this study was to describe incoming undergraduate students residing in content-based residential colleges who were admitted and enrolled for the Fall 2014 semester as defined by their payment of fees and inclusion in the 14th class day count at a research university-very high research (RU/VH) in the southern region of the United States on the following selected characteristics:

- a. Gender;
- b. Race;
- c. High school grade point average (GPA);
- d. College entrance examination (ACT/SAT) composite scores;
- e. Credit hours the student earned each semester of their first four semesters (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);
- f. Overall grade point average (GPA) at the end of their first year (2014-2015); and at the end of their second year (2015-2016);

- g. Whether or not the student was a resident of the state;
- h. The semester GPA achieved in each of the student's first four semesters of college enrollment (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);
- i. Whether or not the student was retained in the university in each of their second through fifth semesters of study;
- j. Whether or not the student changed their curricula in their second through fifth semester of study; and
- k. The number of times the student changed curricula in their second through fifth semester of study.

2. The second objective of this study was to describe incoming undergraduate students who did not live in residential colleges and were admitted and enrolled for the Fall 2014 semester as defined by their payment of fees and inclusion in the 14th class day count at a research university-very high research (RU/VH) in the southern region of the United States on the following selected characteristics:

- a. Gender;
- b. Race;
- c. High school grade point average (GPA);
- d. College entrance examination (ACT/SAT) composite scores;
- e. Credit hours the student earned each semester of their first four semesters (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);
- f. Overall grade point average (GPA) at the end of their first year (2014-2015);
- g. Overall college grade point average (GPA) at the end of their second year (2015-2016);

- h. Whether or not the student was a resident of the state;
- i. The semester GPA achieved in each of the student's first four semesters of college enrollment (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);
- j. Whether or not the student was retained in the university in each of their second through fifth semesters of study;
- k. Whether or not the student changed their curricula in their second through fifth semester of study; and
- l. The number of times the student changed curricula in their second through fifth semester of study.

3. The third objective of this study was to compare incoming college freshmen who lived in a content-based residential college with those who did not live in a content-based residential college, on the following selected measures:

- a. Gender;
- b. Race;
- c. High school grade point average (GPA);
- d. College entrance examination (ACT/SAT) composite scores;
- e. Credit hours the student earned each semester of their first four semesters (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);
- f. Overall grade point average (GPA) at the end of their first year (2014-2015);
- g. Overall college grade point average (GPA) at the end of their second year (2015-2016);
- h. Whether or not the student was a resident of the state;
- i. The semester GPA achieved in each of the student's first four semesters of

college enrollment (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);

j. Whether or not the student was retained in the university in each of their second through fifth semesters of study;

k. Whether or not the student changed their curricula in each of their second through fifth semester of study; and

l. The number of times the student changed curricula in their second through fifth semester of study.

4. The fourth objective of the study was to determine if a relationship existed between the following selected variables and second-to-third year (fifth semester) student retention:

a. Gender;

b. Race;

c. High school grade point average (GPA);

d. College entrance examination (ACT/SAT) composite scores;

e. Credit hours the student earned each semester of their first four semesters (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);

f. Overall grade point average (GPA) at the end of their first year (2014-2015);

g. Overall college grade point average (GPA) at the end of their second year (2015-2016);

h. Whether or not the student was a resident of the state;

i. The semester GPA achieved in each of the student's first four semesters of college enrollment (Fall 2014, Spring 2015, Fall 2015, and Spring 2016);

j. Whether or not the student was retained in the university in each of their second through fifth semesters of study;

k. Whether or not the student changed their curricula in each of their second through fifth semester of study;

l. The number of times the student changed curricula in their second through fifth semester of study; and

m. Type of freshman housing (content-based residential college or not in a content-based residential college).

5. The fifth objective of this study was to determine if a model existed that significantly increased the researcher's ability to correctly classify students on their retention from the second to third year, or fifth semester, of study among undergraduate students at a research university-very high research (RU/VH) in the Southern region of the United States from the following measures:

a. Type of freshman housing (content-based residential college or elsewhere);

b. Gender;

c. Race;

d. High school grade point average (GPA);

e. College entrance examination (ACT/SAT) composite scores;

f. Credit hours the student earned during their first semester of enrollment (Fall 2014);

g. The semester GPA achieved in the first semester of college enrollment (Fall 2014); and

h. Whether or not the student was a resident of the state.

Summary of Methodology

The target population for this study was defined as traditional-age, first-time college freshmen who enrolled in a research university-very high research activity (RU/VH) in the South. The accessible population was defined as traditional age, first-time college freshmen who enrolled in one selected research university-very high research activity (RU/VH) in the 2014-2015 academic year. The researcher identified all traditional-age, first-time freshmen who were admitted and enrolled in the study institution for the Fall 2014 semester from the database of the study institution's Office of the University Registrar. The researcher defined a "first-time, traditional age freshman" as one who had recently graduated high school and/or never enrolled or attended another university. The accessible population was 5,542 admitted first-time freshman students. The sample was defined as 100% of the accessible population. Therefore, there were 5,542 students that were selected as the sample for the study. Of the 5,542 students, 1,363 lived in content-based residential colleges and 4,179 did not live in content-based residential colleges.

The instrument that was used to collect data for this study consisted of a researcher-designed, computerized recording form. The specific variables that were measured were selected based on the review of the related literature and the information that was obtained from the Office of the University Registrar and the Residential Colleges Annual Report. All variable information needed for this study was downloaded from these databases into a file which served as the research instrument.

Permission for this study was granted from the Institutional Review Board (IRB). The researcher applied for and was granted an Exemption from Institutional Oversight from the IRB. Computer assistance compiling data was requested from and approved by the Office of the University Registrar.

Summary of Major Findings

The major findings of this study are presented by objective.

Objective One

The first objective of this study was to describe incoming undergraduate students residing in content-based residential colleges who were admitted and enrolled for the Fall 2014 semester as defined by their payment of fees and inclusion in the 14th class day count at a research university-very high research (RU/VH) in the southern region of the United States on selected characteristics.

Of the 1,373 students who resided in a content-based residential college beginning in the Fall 2014 semester, more male students (58%) than female students (42%) lived in a content-based residential college. The majority of the students self-identified as being White (71.0%) and the second largest group of students identified themselves as Black or African-American (14.6%). The majority of the students (76.30%) were residents of the state in which the study institution was located.

The mean high school GPA for the 1,373 students who lived in a content-based residential college in the Fall 2014 was 3.40 (SD = .370). The high school GPAs for these students ranged from a low of 2.29 to a high of 4.00. The range of GPAs from 3.25—3.49 contained the highest number of scores ($n = 302$).

At the study institution, all applicants are required to submit a college entrance examination score report. The mean composite score on the ACT for students who lived in a content-based residential college was 25.96 (SD = 3.347). The scores ranged from a low of 18 to a high of 36.

Another variable, credit hours earned each semester, was used to describe the academic progress of students enrolled in content-based residential colleges. In the Fall 2014, for the 1,373 students enrolled in content-based residential colleges, the mean number of credit hours earned was 12.90 ($\underline{SD} = 3.462$), with the lowest number of credit hours earned being 0 and the highest number of credit hours earned being 18. When observed by the number of hours earned each semester, the range that contained the largest number of scores was 15-17 ($n = 579$).

For students that lived in a content-based residential college, the cumulative GPA at the end of their first year of study was another measured variable. Of the 1,373 students who lived in a content-based residential college in the Fall of 2014, the mean GPA was 2.89 ($\underline{SD} = .769$). The lowest GPA was 0.00 and highest GPA was 4.0. Of the 1,373 students who lived in a content-based residential college in the Fall of 2014, 1,211 were observed at the completion of the second year of study. The mean GPA was 2.96 ($\underline{SD} = .606$). The lowest GPA was 0.00 and highest GPA was 4.127.

Whether or not the student was retained in the fifth semester of college was another variable used to describe students that lived in a content-based residential college in the Fall of 2014. In the Fall 2014 semester, 1,373 students described themselves as residing in a content-based residential college. Of the 1,373 students that lived in a content-based residential college in the Fall 2014 semester, 1,086 (79.1%) of students were retained in their fifth semester of college enrollment, whereas 287 (20.9%) students did not earn a GPA in their fifth semester of college enrollment.

Objective Two

The second objective of this study was to describe incoming undergraduate students who did not live in residential colleges and were admitted and enrolled for the Fall 2014 semester as

defined by their payment of fees and inclusion in the 14th class day count at a research university-very high research (RU/VH) in the southern region of the United States on selected characteristics.

Of the 4,169 students who did not reside in a content-based residential college beginning in the Fall 2014 semester, more female students (57.9%) than male students (42.1%) did not live in a content-based residential college. Though twelve students did not respond, the majority of the students self-identified as being White (74.1%) and the second largest group of students identified themselves as Black or African-American (11.6%). The majority of the students (86.80%) were residents of the state in which the study institution was located.

The high school grade point averages (GPA) were defined as the grade point average for all courses required for admission into a Research University (RU/VH) institution in the southern region of the United States. The mean high school GPA for these students was 3.44 (SD = .411). The academic GPAs for these students ranged from a low of 2.08 to a high of 4.00. The range of GPAs from 3.5-3.749 contained the highest number of scores ($n = 900$).

At the study institution, all applicants are required to submit a college entrance examination score report. The mean composite score on the ACT for students who did not live in a content-based residential college was 25.56 (SD = 3.496). The scores ranged from a low of 14 to a high of 36. One student's score was not reported.

Another variable, credit hours earned each semester, was used to describe the academic progress of students enrolled and not living in a content-based residential college. In the Fall 2014, for the 4,169 students who were not enrolled in a content-based residential college, the mean number of credit hours earned was 12.77 (SD = 3.460), with the lowest number of credit hours earned being 0 and the highest number of credit hours earned being 19.

For students that did not live in a content-based residential college, the cumulative GPA at the end of their first year of study was another measured variable. Of the 4,169 students who did not live in a content-based residential college in the Fall of 2014, the mean GPA was 2.92 ($SD = .817$). The lowest GPA was 0.00 and highest GPA was 4.0. Of the 4,169 students who did not live in a content-based residential college in the Fall of 2014, 3,561 were observed at the completion of the second year of study, meaning that 608 students were not retained. The mean GPA was 3.04 ($SD = .635$). The lowest GPA was 0.00 and highest GPA was 4.164.

Whether or not the student was retained in the fifth semester of college was another variable used to describe students that lived in a content-based residential college in the Fall of 2014. Of the 4,169 students that did not live in a content-based residential college, 3,078 (73.8%) students earned a GPA in the Fall 2016 semester, their fifth semester of college enrollment, whereas 1,091 (26.2%) students did not earn a GPA in their fifth semester of college enrollment.

Objective Three

The third objective of this study was to compare incoming college freshmen who lived in a content-based residential college with those who did not live in a content-based residential college on selected measures.

When the variable, whether or not the student was a resident of the state in which the study institution was located, was tested for independence from the variable, whether or not the student participated in a content-based residential college during her or his freshman year, a statistically significant chi-square result ($\chi^2_{(1)} = 27.094$, $p < .001$) was yielded. The nature of the association between the variables was such that a higher percentage of students that participated in a content-based residential college during their freshman year were residents of the state

(76.3%) than those that participated in a content-based residential college and were a nonresident of the state in which the study institution was located (23.72%).

When the variable, whether or not the student was retained in the Fall 2016 semester, was tested for independence from the variable, whether or not the student participated in a content-based residential college during her or his freshman year, a statistically significant chi-square result ($\chi^2_{(1)} = 12.662$, $p < .001$) was yielded. The nature of the association between the variables was such that a higher percentage of students that participated in a content-based residential college during their freshman year were retained from the fourth to fifth semester (77.9%) than those that did not participate in a content-based residential college during their freshman year (73.0%).

When the variable, whether or not the student was retained in the Spring 2016 semester, was tested for independence from the variable, whether or not the student participated in a content-based residential college during her or his freshman year, a statistically significant chi-square result ($\chi^2_{(1)} = 8.619$, $p = .003$) was yielded. The nature of the association of the variables was such that a higher percentage of students that participated in a content-based residential college during their freshman year were retained from their third to fourth semester (82.7%) than those that did not participate in a content-based residential college during their freshman year (79.1%).

When the variable, whether or not the student changed curricula in the Fall 2015 semester, was tested for independence from the variable, whether or not the student participated in a content-based residential college during her or his freshman year, a statistically significant chi-square result ($\chi^2_{(1)} = 7.603$, $p = .006$) was yielded. The nature of the association between the variables was such that a higher percentage of students that participated in a content-based

residential college during their freshman year did not change their curricula (72.8%) than those that did not participate in a content-based residential college during their freshman year (68.4%)

When the variable, whether or not the student changed curricula in the Spring 2016 semester, was tested for independence from the variable, whether or not the student participated in a content-based residential college during her or his freshman year, a statistically significant chi-square result ($\chi^2_{(1)} = 5.394$, $p = .020$) was yielded. The nature of the association between the variables was such that a higher percentage of students that participated in a content-based residential college during their freshman year did not change their curricula (78.3%) than those that did not participate in a content-based residential college during their freshman year (74.8%).

When the variable, whether or not the student was retained in the Fall 2015 semester, was tested for independence from the variable, whether or not the student participated in a content-based residential college during her or his freshman year, a statistically significant chi-square result was yielded ($\chi^2_{(1)} = 6.336$, $p = .012$). The nature of the association of the variables was such that a higher percentage of students that participated in a content-based residential college during their freshman year were retained from the second to third semester (86.7%) than those that did not participate in a content-based residential college during their freshman year (83.8%).

To accomplish this objective for variables that were measured on an interval scale of measurement, the independent t test procedure was used. Using an a priori significance level of .05, significant differences were found in the following variables: (1) GPA earned in the second semester of study (Spring 2015); (2) GPA earned in the third semester of study (Fall 2015); and (3) GPA earned in the fourth semester of study (Spring 2016). The remaining variable, GPA achieved during the first semester of study, indicating that it was not independent of the variable, whether or not the student was enrolled in a content-based residential college.

The independent samples t test procedure was used to determine if a difference existed in the Grade Point Averages (GPA) earned each semester by students who lived in content-based residential colleges and students who did not live in content-based residential colleges. Using an a priori significance level of .05, significant differences were found in three of the four semesters of enrollment. The first semester of study, Fall 2014, and the end of year GPA for the first year (2014-2015) did not yield a statistically significant result, indicating that the two groups of students were not found to be significantly different when examined by their GPA earned during their first semester and first year of study. The remaining semesters, Fall 2015, Spring 2016, and Spring 2015 resulted in statistically significant findings. The 2015-2016 end of year GPA variable also yielded statistically significant findings. The nature of the difference was such that for all semesters where a difference was found, the students who did not participate in a content-based residential college had a higher GPA.

The independent samples t test procedure was also used to determine if a difference existed in the number of credit hours earned each semester by students who lived in content-based residential colleges and students who did not live in content-based residential colleges. Using an a priori significance level of .05, no significant differences were found in each of the four semesters of enrollment.

Objective Four

The fourth objective of the study was to determine if a relationship existed between selected variables and second-to-third year (fifth semester) student retention. Of the 15 variables that were compared, 14 were found to be statistically significant as they were not independent of the variable, whether or not the student was retained in the fifth semester of study, using an a priori significance level of .05. These variables were:

1. GPA achieved at the end of the first year of study (2014-2015);
2. GPA achieved at the conclusion of the first semester of study (Fall 2014);
3. GPA achieved at the conclusion of the second semester of study (Spring 2015);
4. Number of credit hours earned in the first semester of study (Fall 2014);
5. Number of credit hours earned in the second semester of study (Spring 2015);
6. GPA achieved at the end of the second year of study (2015-2016);
7. GPA achieved at the conclusion of the third semester of study (Fall 2015);
8. Number of credit hours earned in the third semester of study (Fall 2015);
9. GPA achieved at the conclusion of the fourth semester of study (Spring 2016);
10. Number of credit hours earned in the fourth semester of study (Spring 2016);
11. High school GPA;
12. ACT score;
13. Race; and
14. Whether or not the student was a resident of the state in which the study institution was located.

The findings for this objective were achieved by analyzing the data with the chi-square test of independence and Pearson's correlation coefficient. When examining the relationship between whether or not the student was retained in the fifth semester of study, the variable 2014-2015 End GPA yielded the highest correlation ($r = .454$, $p < .001$). Using Davis' Descriptors Scale (1971), the correlation between 2014-2015 end GPA and whether or not the student was retained in the fifth semester of study was described as a "moderate association." Other variables that had a moderate association included the Fall 2014 semester GPA ($r = .431$, $p < .001$), Spring 2015 semester GPA ($r = .431$, $p < .001$), Fall 2014 earned hours ($r = .386$, $p < .001$), Spring 2015

earned hours ($r = .366, p < .001$), 2015-2016 GPA ($r = .348, p < .001$), and Fall 2015 semester GPA ($r = .300, p < .001$). According to the Davis' Descriptors (1971), five variables were categorized as having a "low association." Those variables included Fall 2015 earned hours ($r = .295, p < .001$), Spring 2016 GPA ($r = .290, p < .001$), Spring 2016 semester earned hours ($r = .277, p < .001$), high school GPA ($r = .175, p < .001$), and ACT score ($r = .139, p < .001$).

Three variables were measured on a categorical scale: (1) gender, (2) race and (3) whether or not the student was a resident of the state in which the study institution was located. To analyze these variables, the researcher used the chi-square procedure to determine if each of the variables were independent of the variable, whether or not students were retained from the second to third year, or fifth semester, of study. Using an a priori significance level of .05, the variable, whether or not the student was a resident of the state in which the study institution was located, was not independent of the variable, whether or not students were retained from the second to third year of study. This yielded a statistically significant finding ($\chi^2_{(1)} = 27.094, p < .001$). The variable, gender, was independent of the variable and did not yield a statically significant finding ($\chi^2_{(1)} = .033, p = .855$), meaning that gender did not predict whether or not the student would be retained in the fifth semester of study.

Objective Five

The fifth and final objective of this study was to determine if a model existed that significantly increased the researcher's ability to correctly classify students on their retention from the second to third year, or fifth semester, of study among undergraduate students at a research university-very high research (RU/VH) in the Southern region of the United States. A total of five independent variables entered the discriminant model yielding an overall canonical

correlation of $R_c = .451$. The combination of these variables in the exploratory model correctly classified 73.4% of the original grouped cases. These five variables were:

1. The number of hours earned in the Fall 2014 semester;
2. The GPA earned in the Fall 2014 semester;
3. Whether or not the student lived in the state in which the study institution was located;
4. Whether or not the student lived in a content-based residential college in the Fall 2014 semester; and
5. Gender.

Conclusions, Implications, and Recommendations

Based on the findings from this study, the researcher recommends the following conclusions, implications, and recommendations:

Conclusion One

1. The gender composition of the students who lived in content-based residential colleges was considerably different from the gender composition of the students who did not live in a content-based residential college.

This conclusion is based on the findings that of the 1,373 students that lived in a content-based residential college, 577 (42%) were female and 796 (58%) were male, whereas of the 4,169 students that did not live in a content-based residential college, 2,413 (57.9%) were female and 1,756 (42.1%) were male.

Several possible explanations exist for the disparity of gender composition between the group of students who lived in a content-based residential college and the group of students who did not live in a content-based residential college. Each residential college has an academic focus, such as business, science, or engineering, and as such, some academic programs are more

male or female dominated, depending upon the program of study. For example, the College of Engineering tends to be a more male dominated field, and as such, this may be reflected in their content-based residential college.

Additionally, of all the traditional residential halls available to students, there is one that is reserved for females only. This residential hall features 540 bed spaces for incoming female freshman. There is not a residential hall reserved specifically for male students. This residential hall is highly sought after by female students, and could be attractive to parents of female freshman who want their daughters to live in a female-only residential hall. Because of this, the group of potential content-based residential hall female residents is smaller than potential male residents.

Based on these findings and the conclusions from this study, the researcher recommends further research in the form of focus groups with both groups of female students, those that chose to live in a content-based residential college and those that did not choose to live in a content-based residential college with the aim of identifying specific reasons that lead females to make the decision to reside (or not to reside) in content-based residential colleges.

Beyond further research, the researcher recommends increasing recruitment efforts toward the goal of getting more females to select content-based residential colleges. Additionally, recruitment efforts should be made to increase gender diversity in historically male dominated fields. In fact, if this goal were accomplished, the increased numbers of females residing in content-based residential colleges might logically follow.

Conclusion Two

2. The greatest student attrition occurred between the second and third semesters of study.

This conclusion is based on the findings that for the students who lived in a content-based residential college, the greatest student attrition (9.0%) occurred between the Spring 2015 and Fall 2015 semesters. For students that did not live in a content-based residential college, the greatest student attrition (10.7%) also occurred between the Spring 2015 and Fall 2015 semesters.

There are several possible explanations for why the greatest attrition occurred between the second (Spring 2015) and third (Fall 2015) semesters. It is possible that students did not adjust to independent living or were not prepared for the academic workload. The general recommendation is that for each credit hour taken, three hours are spent studying outside of class. If a student takes twelve credit hours, the minimum number of hours to be considered a full time student, this means that the student should spend a total of 48 hours on college-related coursework and preparation for class. Spending 48 hours a week on coursework leaves little time for outside employment or socialization, both of which are typically important aspects in the lifestyle of an undergraduate student. As the costs to attend college continually increase, there is a greater need for students to maintain employment while they are enrolled to help defray the rising costs. The inability for a student to manage their time both inside and outside of the classroom could be contributing factors to the decline in retention.

From an institutional perspective, it is possible that after spending two semesters enrolled, students decided that the study institution was not the right environment or did not meet their expectations and/or needs. It is also possible that they did not receive adequate academic advising or support in selecting courses and/or course loads when making the decision to remain enrolled. The importance of becoming acclimated to and integrated in both the academic and social environments is consistent with the literature. Tinto's (1993) student integration model

includes dimensions that range from academic preparation (pre-college characteristics), institutional experiences, and constructs for the student to become acclimated to the institution, both academically and socially.

Based on these findings and conclusions, the researcher recommends that further research be conducted in the form of surveys and focus groups in an attempt to identify specific factors that contributed to the decision to withdraw from the university. From this research, a model could be created that identifies characteristics of students who are at risk for not persisting until degree completion. Once these behaviors and characteristics are identified, the institution could adjust the way in which academic advising is conducted and require high quality advising prior to the start of and continuing through the first two semesters. High quality academic advising can take many different forms. Advisors should first seek to understand the student as a whole person and not simply from an academic lens. Establishing a meaningful relationship early on and learning about the student's interests, strengths, weaknesses, skills, and abilities will allow the advisor to take on a talent development approach. Once the students' talents, strengths, and weaknesses are identified, the advisor can better assist students in navigating and taking full advantage of what the institution has to offer, in terms of courses and career services. For example, a student who has difficulties in the area of writing should probably not be advised to enroll in multiple writing-intensive courses in the same semester. Developing deeper, more meaningful relationships with students will also allow the advisor to guide students to identify pathways of academic, social, and career success. This is consistent with the literature. Habley (2004) found that student-institution interactions (with faculty, advisors, peers, and administrators) directly influence undergraduate retention. Further, based on research conducted by Noel-Levitz in 2015, one-on-one advising by staff was ranked most effective amongst a list of

48 common retention practices. Finally, based on the data gathered, the researcher recommends that the institution create intervention programs in an effort to remedy issues with the identified at-risk students before they arise.

Conclusion Three

3. The grade point averages for students who did not participate in a content-based residential college were higher than those that did participate in a content-based residential college.

This conclusion is based on the findings that for the six GPA measurements that were compared by residential college participation (four semesters and two end of year GPAs) four were significantly higher for students who did not participate in a content-based residential college. These included the second semester, Spring 2015, ($t_{5251} = 2.252$, $p = .02$) with the GPA for non-residential college participants of 2.88 ($SD = .897$) and a GPA for residential college participants of 2.82 ($SD = .861$); the third semester, Fall 2015, ($t_{4683} = 2.932$, $p = .003$), with the GPA for nonresidential college participants of 2.92 ($SD = .862$) and residential college participants of 2.84 ($SD = .827$); the fourth semester, Spring 2016, ($t_{4431} = 2.707$, $p = .007$), with the GPA for nonresidential college participants of 2.94 ($SD = .907$) and the GPA residential college participants of 2.859 ($SD = .851$); and the 2015-2016 end of year GPA ($t_{4770} = 3.472$, $p < .001$), with the GPA for non-residential college participants of 3.105 ($SD = .581$) and the GPA for residential college participants of 3.022 ($SD = .537$).

One possible explanation for this finding is that students who participate in a content-based residential college could be more involved in campus life. This is consistent with the literature, as students in learning communities develop supportive peer groups, tend to spend more time together, and become more involved in a range of learning activities, learn more, and

persist more frequently than do students in traditional learning settings (Tinto 1997, 2000; Zhao & Kuh, 2004).

Based on this finding and conclusion, the researcher recommends that directors of content-based residential college programs should establish additional support in the in the form of office hours and strategically planned study groups, as Tinto's (2004) research suggests that "to improve undergraduate retention, all institutions of higher education must offer easily accessible academic, personal, and social support services" (Tinto, 2004, p.). This remains in line with his theory that interactions influence a student's sense of connection to the institution. Further, directors could arrange seminars focusing on time management and productivity to guide students in wisely organizing their time so they can remain involved in campus life. In addition to office hours, study groups, and time management seminars, directors of content-based residential colleges could arrange opportunities for students to make meaningful connections with the services available to undergraduate students provided by the institution.

Conclusion Four

4. The number of credit hours earned in each of the first four semesters influenced the retention of students into their fifth semester.

This conclusion is based on the findings that when the number of credit hours earned in each of the first four semesters of enrollment were compared to whether or not the student was retained in their fifth semester of enrollment all four of the measures were significantly different. The number of hours earned in the first semester (Fall 2014) of enrollment by students retained into their fifth semester was 13.59 (SD = 2.588) whereas the hours earned by students who were not retained was 10.54 (SD = 4.502). These variables were found to be significant ($t_{5540} = 31.115, p < .001$). The number of hours earned in the second semester (Spring 2015) of

enrollment by whether or not students were retained in the fifth semester participants was 13.70 (SD = 2.537) whereas the hours earned those who were not retained in the fifth semester was 10.75 (SD = 4.569). These variables were found to be significant ($t_{5251} = 28.542$, $p < .001$). The number of hours earned in the third semester (Fall 2015) of enrollment by those who were retained in the fifth semester participants was 13.40 (SD = 2.884) whereas the hours earned by students who were not retained in the fifth semester of study was 10.57 (SD = 4.345). These variables were found to be significant ($t_{4683} = 21.161$, $p < .001$). The number of hours earned in the fourth semester (Spring 2016) of enrollment by residential college participants was 13.52 (SD = 3.094) whereas the hours earned by non-residential college participants was 10.25 (SD = 4.611). These variables were found to be significant ($t_{4431} = 19.191$, $p < .001$).

It is also important to observe the percentage of students who dropped below full-time student status in each of their first four semesters of study. In order to be considered full-time, a student must enroll in and successfully complete 12 credit hours. A substantial number of students failed to maintain full time status each of their first four semesters, based on the data that showed for both groups (those that were retained in the fifth semester and those that were not) of students, between 17.9%-21.3% of all enrolled students dropped between full-time status each semester. Dropping below full time status carries a significant set of consequences, of which inexperienced students may not be aware. Beyond increasing the length of time to complete the degree, students that drop below full-time status are at risk for losing scholarships and student aid. They also lose the financial investment that they made in the form of tuition, fees, and related expenses, and as college becomes increasingly and rapidly more expensive, this could make a significant impact on the student's decision to return the following semester. This is consistent with the literature, as the White House warns, "The most expensive education is one

that doesn't lead to a degree" and compares the burden of student loan debt of graduates versus non-graduates, explaining that students who take out college loans but do not graduate are three times more likely to default than borrowers who complete. Also, a students' ability to repay their loans depends more strongly on whether they graduate than on how much total debt they take (United States Department of Education, 2016).

From an institutional perspective, the institution is influenced when a student drops below full-time status. This is consistent with the literature that explains that students persisting to graduation is a key of student success, and therefore institutional success (Noel-Levitz, 2008).

Dropping below full-time status has an impact on whether or not the student is retained in the fifth semester of study. The number of credit hours earned during the first semester was a significant explanatory factor in the discriminant model explaining retention in the fifth semester. With those completing fewer hours (e.g. less than full time status) being less likely to return for their fifth semester.

Based on these findings and conclusions, the researcher recommends additional research in the form of focus groups and surveys to determine why students dropped below full-time status. Some possibilities include not being prepared for the coursework, not being properly advised, and not realizing the serious implications associated with dropping below full-time status. Once these variables are identified, the researcher recommends putting into place strategic advising prior to enrollment and throughout each of the first four semesters of study so that students understand that dropping below full-time status may have an impact on their ability to persist until degree completion.

The researcher also recommends further research in the area of dual enrollment courses. A recent trend to push high school students to participate in dual enrollment courses, gives the

students the opportunity to earn high school and college credit at the same time. This allows many students the opportunity to arrive on campus having earned credit hours on their transcript, and enroll in the next required course in the sequence. However, due to the inconsistency of quality and academic rigor amongst the many dual enrollment programs that currently exist, students are sometimes unprepared to be successful in the next course in the sequence.

Therefore, the researcher recommends further research on the impact that participation in dual enrollment has on the retention and time to graduation of students who begin college credits earned through dual enrollment.

Conclusion Five

5. Residential college has a higher representation of minorities than non-residential college.

This conclusion is based on the findings that for each of the groups of minorities represented in the data (Black, Hispanic, Asian, and Multi-Racial), content-based residential colleges had a higher percentage as compared to the non-residential college group. This comparison yielded a statistically significant chi-square value ($\chi^2_{(1)} = 14.991, p = .005$). This finding is not consistent with the literature, as Fenske, Porter, and DuBrock (2000) found that for every two Caucasian students that dropout, three African-American students withdraw and are 20% less likely to complete college within a six-year period (Fenske, Porter, and DuBrock, 2000). Even with an increased representation of minority students, participation in a residential college had a positive impact on retention.

It is possible that content-based residential colleges do a better job of recruiting of diverse audiences and encouraging minorities to enroll. Additionally, content-based residential colleges could be more effective in creating diverse living-learning communities. Having a living-

learning community that is more reflective of the diverse population in which students will one day work and live makes a richer and more meaningful experience for all involved.

Based on this finding and conclusion, the researcher recommends additional research in the form of surveys and focus groups of minority students who did make the decision to live in a content-based residential college and of minority students who did not live in content-based residential colleges, with the aim of identifying what factors influenced the decision whether or not to enroll in a content-based residential college. The researcher also recommends additional research to observe if success in minority recruiting is focused in certain programs or if it is consistent amongst all content based residential colleges.

Conclusion Six

6. Students who did not change curricula during their second through fifth semesters were more likely to be retained in the fifth semester than those that did.

This conclusion is based on the findings that for three of the four semesters (Spring 2015, Fall 2015, and Spring 2016) students who did not change curricula were more likely to be retained in the fifth semester. This indicates that these variables were not independent. The nature of the association was such that students who did not change curricula were more likely to be retained in the fifth semester.

It is possible that students who did not change curricula entered with the knowledge of what they wanted to study and followed the appropriate program of study. Students who lived in a content-based residential college changed curricula fewer times ($\underline{M} = .75$) than their peers who did not live in a content-based residential college ($\underline{M} = .83$). It is possible that this is due to students who lived in a content-based residential college intentionally selected their living-learning community based on their academic interests.

On the other hand, the students that changed curricula more than once may have not understood the implications of losing credit hours, thus delaying graduation. Students that made multiple changes to curricula may not have been thoroughly exposed to the curricula offered at the institution before beginning their first semester of study.

Based on these findings and conclusions, the researcher recommends that institutions establish summer boot camp orientation programs for students with declared majors. These programs could help students in determining whether or not this declared major was suited to their interests and abilities. The researcher further recommends that career services design and offer career exploration boot camp programs for first-time, entering freshman students to assist them with making decisions about majors and areas of career goals. Students who do not have a declared major should be strongly encouraged to participate in an orientation program geared for traditional first-time freshmen, during which students complete interest inventories and similar surveys to assist them in choosing a program of study that is suited to their strengths, weaknesses, and interests. In addition to a first year experience program, the researcher recommends arranging mentorship opportunities early on in the semester so that students can gain real-world experience in the field in which they intend to pursue employment. This would allow the student to decide if the curricula they are pursuing is satisfying and worthwhile. Additionally, the institution should offer strategic academic advising and guidance to students who change curricula more than once, ensuring that the students understand the implications of frequently changing their program of study and helping students find the right academic fit.

Conclusion Seven

7. Participating in a content-based residential college increased the likelihood of being retained in the fifth semester.

Living in a content-based residential college made a significant contribution to the discriminant model, ($\beta = .799$). It is important to note that this variable was found to have a higher mean for the students that were retained ($\underline{M} = .261$) versus the students that were not retained ($\underline{M} = .212$). The study institution retained 77.9% of the students who lived in a content-based residential college and 73.0% of students who did not live in a content-based residential college. This finding was statistically significant, with a chi-square value of 12.662 ($p < .001$).

Several possible explanations for this finding exist. It is possible that students that participate in content-based residential colleges are more academically minded, and choose to enroll in a content-based residential college that fits their interests. Due to the nature of residing in a living-learning community, students may have more opportunities to make relationships and identify study partners among their peers. This is reflected within the literature, as Tinto (2007) explained, the social benefits to building peer support groups is that, “participation in a first-year learning community enabled students to develop a network of supportive peers that helped students make the transition to college and integrate them into a community of peers” (Tinto, 2007, p. 5). This is also consistent with Seidman’s (2012) research that found students in living learning communities develop supportive peer groups, tend to spend more time together, and become more involved in a range of learning activities. These students may also learn more, and persist more frequently than students in traditional learning settings (Tinto 1997, 2000; Zhao & Kuh, 2004).

Residents of content-based residential college have more frequent opportunities to make connections with professors and instructors. Habley (2004) found that student-institution interactions (with faculty, advisors, peers, and administrators) directly influenced undergraduate retention and in the same year, Tinto (2004) suggested that “to improve undergraduate retention,

all institutions of higher education must offer easily accessible academic, personal and social support services (Tinto, 2004).

Based on these findings, conclusions, and connections to the literature, the researcher recommends that as the study institution moves to a freshman residency requirement, more content-based residential college options should be offered to first-time freshmen. This includes expanding the available beds for existing residential colleges and increasing the number of residential colleges. Ideally, every college should have a content-based residential college.

Additionally, the researcher recommends that residential colleges should be offered beyond the first year of study, and potentially developed within individual or groups of departments to increase the academic and content focus.

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APPENDIX A: INSTITUTIONAL REVIEW BOARD APPROVAL



ACTION ON EXEMPTION APPROVAL REQUEST

TO: Loren McIntyre
SHREWD

FROM: Dennis Landin
Chair, Institutional Review Board

DATE: July 3, 2017

RE: IRB# E10527

TITLE: The Influence of Student Housing and Selected Academic and Personal Demographic Characteristics on the Retention of Students from the Second to Third Year at a Research University (RU/VH)

Institutional Review Board
Dr. Dennis Landin, Chair
130 David Boyd Hall
Baton Rouge, LA 70803
P: 225.578.8692
F: 225.578.5983
irb@lsu.edu
lsu.edu/research

New Protocol/Modification/Continuation: New Protocol

Review Date: 7/3/2017

Approved X **Disapproved**

Approval Date: 7/3/2017 **Approval Expiration Date:** 7/2/2020

Exemption Category/Paragraph: 4a

Signed Consent Waived?: N/A

Re-review frequency: (three years unless otherwise stated)

LSU Proposal Number (if applicable):

Protocol Matches Scope of Work in Grant proposal: (if applicable)

By: Dennis Landin, Chairman 

PRINCIPAL INVESTIGATOR: PLEASE READ THE FOLLOWING – Continuing approval is CONDITIONAL on:

1. Adherence to the approved protocol, familiarity with, and adherence to the ethical standards of the Belmont Report, and LSU's Assurance of Compliance with DHHS regulations for the protection of human subjects*
2. Prior approval of a change in protocol, including revision of the consent documents or an increase in the number of subjects over that approved.
3. Obtaining renewed approval (or submittal of a termination report), prior to the approval expiration date, upon request by the IRB office (irrespective of when the project actually begins); notification of project termination.
4. Retention of documentation of informed consent and study records for at least 3 years after the study ends.
5. Continuing attention to the physical and psychological well-being and informed consent of the individual participants, including notification of new information that might affect consent.
6. A prompt report to the IRB of any adverse event affecting a participant potentially arising from the study.
7. Notification of the IRB of a serious compliance failure.
8. **SPECIAL NOTE: When emailing more than one recipient, make sure you use bcc. Approvals will automatically be closed by the IRB on the expiration date unless the PI requests a continuation.**

* All investigators and support staff have access to copies of the Belmont Report, LSU's Assurance with DHHS, DHHS (45 CFR 46) and FDA regulations governing use of human subjects, and other relevant documents in print in this office or on our World Wide Web site at <http://www.lsu.edu/irb>

APPENDIX B: COMPUTERIZED REPORTING FORM

Variables that will be entered into computerized recording form:

- a. Gender;
- b. Race;
- c. Overall high school grade point average (GPA);
- d. College entrance examination (ACT/SAT) composite scores;
- e. High school academic grade point average (GPA);
- f. Credit hours the student earned each semester;
- g. Cumulative grade point average (GPA) at the end of their first year;
- h. Cumulative college grade point average (GPA) at the end of their second year;
- i. Whether or not the student was a resident of the state;
- j. The overall GPA achieved at the end of the first year of college enrollment;
- k. The semester GPA achieved in the third semester of college enrollment;
- l. The overall GPA achieved at the end of the second year of college enrollment;
- m. Whether or not the student is retained in college during each of the first four semesters of college;
- n. Distance of parent/guardian home from the university measured in miles;
- o. Highest level of parents' education

APPENDIX C: SAT TO ACT CONCORDANCE TABLE

Concordance Tables

Released: May 9, 2016

New SAT to ACT Concordance Table

Table 7							
New SAT Total (400-1600)	ACT Composite Score	New SAT Total (400-1600)	ACT Composite Score	New SAT Total (400-1600)	ACT Composite Score	New SAT Total (400-1600)	ACT Composite Score
1600	36	1330	28	1060	21	790	14
1590	35	1320	28	1050	20	780	14
1580	35	1310	28	1040	20	770	14
1570	35	1300	27	1030	20	760	14
1560	35	1290	27	1020	20	750	13
1550	34	1280	27	1010	19	740	13
1540	34	1270	26	1000	19	730	13
1530	34	1260	26	990	19	720	13
1520	34	1250	26	980	19	710	12
1510	33	1240	26	970	18	700	12
1500	33	1230	25	960	18	690	12
1490	33	1220	25	950	18	680	12
1480	32	1210	25	940	18	670	12
1470	32	1200	25	930	17	660	12
1460	32	1190	24	920	17	650	12
1450	32	1180	24	910	17	640	12
1440	31	1170	24	900	17	630	12
1430	31	1160	24	890	16	620	11
1420	31	1150	23	880	16	610	11
1410	30	1140	23	870	16	600	11
1400	30	1130	23	860	16	590	11
1390	30	1120	22	850	15	580	11
1380	29	1110	22	840	15	570	11
1370	29	1100	22	830	15	560	11
1360	29	1090	21	820	15		
1350	29	1080	21	810	15		
1340	28	1070	21	800	14		

For lower score points, there is not enough data to produce a valid concordance between the new SAT and ACT.

New SAT Writing and Language to ACT English/Writing Concordance Table

Table 8							
New SAT Writing and Language (10-40)	ACT English/ Writing Score	New SAT Writing and Language (10-40)	ACT English/ Writing Score	New SAT Writing and Language (10-40)	ACT English/ Writing Score	New SAT Writing and Language (10-40)	ACT English/ Writing Score
40	34	34	28	28	21	22	15
39	33	33	26	27	20	21	14
38	33	32	25	26	19	20	13
37	32	31	24	25	18	19	13
36	30	30	23	24	17	18	12
35	29	29	22	23	16	17	11

Because of changes to the ACT writing test introduced in 2015, the concord score for the ACT Combined English/Writing is only applicable if you took the ACT prior to September 2015.

For lower score points, there is not enough data to produce a valid concordance between the new SAT and ACT.

VITA

Loren Stelly McIntyre was born in New Orleans, Louisiana to Mary Kathleen Flynn and Terry Stelly. Raised in Mobile, Alabama with her three younger siblings, she graduated from McGill-Toolen Catholic High School in 2005 and received a Bachelor of Science degree from Louisiana State University in 2009. As a part of the Holmes Program under the direction of Dr. Nina Asher, she received a Master of Arts in Teaching in 2010. It was during this time that Dr. Asher wrote the following comment in the margins of a graduate school writing assignment: “Excellent, Loren—Ph.D., perhaps?” Having never considered the possibility of pursuing a degree beyond an M.A.T., Dr. Asher sparked within her the idea that one day she might be able to successfully complete a doctoral degree. Loren was advised to gain a few years of experience as a classroom teacher before pursuing a doctoral degree, and began her career as an elementary educator in Iberville Parish in August 2010, where she remained until May 2014, at which time she was given the opportunity to pursue her Ph.D. as a graduate assistant. She worked as a graduate assistant and for the College of Agriculture at Louisiana State University from June 2014—July 2016 and returned to the classroom in August 2016 at Louisiana State University Laboratory School, where she currently serves as a teaching associate in a first grade classroom.

Outside of the classroom, Loren is a proud daughter, sister, wife, and a mom—a role that was the destination of a tumultuous journey through the lands of infertility and using a gestational carrier. She and her husband, Chris, are passionate about sharing their “journey to John Patrick” in the hopes that they are able to help and support others facing infertility. Loren was proud to share their story before the Louisiana House of Representatives and Senate during the spring 2016 legislative session, in support of a bill that aimed to put into place legal precedence for those who choose to build their families via gestational carrier in the state of

Louisiana. This bill, HB1102, saw a favorable outcome and was signed into law by Louisiana Governor John Bell Edwards, effective 08/01/2016. Loren and her husband, Chris, have one child, John Patrick McIntyre. They live in Addis, Louisiana.